

Company Secretary  
Cadent Gas Limited  
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Email: [Rebecca.Pickett@ofgem.gov.uk](mailto:Rebecca.Pickett@ofgem.gov.uk)

Date: 27 July 2021

Dear Company Secretary,

**Network Innovation Competition – decision on requested amendments on the Project Direction for Cadent Gas Limited’s HyDeploy2 project.**

The Network Innovation Competition (NIC) funds a number of large-scale innovation projects and was set up to encourage network licensees to innovate to: (i) address issues associated with the move to the low carbon economy; and (ii) deliver wider environmental benefits to customers.<sup>1</sup> The NIC ran during the RIIO-GD1 price control period to fund innovative low carbon or environmental projects. Although it no longer runs for the licensee from 1 April 2021, Special Condition 7.7 (RIIO-GD1 network innovation competition) of the Gas Transporter Licence makes provision for arrangements relating to the regulation, administration and governance of NIC Funding approved during RIIO-GD1.<sup>2</sup>

In August 2018, Cadent Gas Limited (“**Cadent**”) submitted a successful application for funding of the project HyDeploy2 (the “**Project**”) to the Authority through the NIC. The purpose of the Project is to demonstrate that natural gas containing up to 20% hydrogen can be distributed and utilised safely on distribution networks. Cadent intended to achieve this in the Project by running two public network trials. A Project Direction was issued on 11 January 2019.<sup>3</sup>

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<sup>1</sup> [Gas Network Innovation Competition Governance Document version 3.0.](#)

<sup>2</sup> Part B of Special Condition 7.7 (RIIO-GD1 network innovation competition) provides that the [NIC Governance Document](#) continues to govern the matters relating to the governance of the NIC.

<sup>3</sup> Project Direction is available here: <https://www.ofgem.gov.uk/publications-and-updates/network-innovation-competition-project-direction-hydeploy2>

On 22<sup>nd</sup> February 2021, Cadent submitted a Material Change request for the Project to the Authority.

Cadent has advised that the Project has made accelerated progress against its original plan to develop an evidence base for the use of hydrogen blends within domestic homes. The exemption case for the Gas Safety (Management) Regulations (“**GS(M)R**”) submitted to the Health and Safety Executive (HSE) for the first public trial to create a generic case for deployment for domestic use that is not contingent upon appliance checks or prior knowledge of the appliance population. This was expected to be achieved following a second exemption process within the Project.

Cadent has therefore requested amendments to the Project Direction to change the Successful Delivery Reward Criteria (SDRCs) 5 – 9 to address the remaining evidence gaps to support at scale deployment of hydrogen blends. It has proposed to develop and submit an exemption case for a region with over 3,000 domestic homes and hundreds of industrial and commercial (I&C) users. To achieve this, Cadent no longer intends to run a second public trial as part of the Project. Instead, it will focus on developing evidence for the remaining evidence gaps, including the use of blends by I&C users, developing Intermediate Pressure (IP) and High Pressure (HP) procedures and carry out further testing on materials and assets. The intended outcome of the project will be an approval of the proposed exemption safety case by the HSE. The physical works and operation of the trial once the exemption has been granted are not included in the Project and HyDeploy will need to fund this separately. The Project end date will remain as 31<sup>st</sup> March 2023 and the overall budget will remain unchanged.

Proposed changes to the SDRCs are as follows:

<b>Ref</b>	<b>Project Deliverable</b>	<b>Summary of change</b>
<b>5</b>	Evidence base for second trial	The Confidential Project Summary Report must now also include key findings on industrial and commercial appliances. The deadline has been changed from 30/07/21 to 31/03/22.
<b>6</b>	First trial completion and interim roadmap report	A requirement to provide an interim version of the roadmap report has been added to this deliverable.
<b>7</b>	Second Exemption submission	The deadline for the second Exemption submission has been changed from 31/10/21 to 31/12/22.
<b>8</b>	Evidence dissemination roadmap	The requirement to produce a report demonstrating that a second trial has commenced has been removed. Instead, Cadent must provide a project report outlining the roadmap for evidence dissemination.

The original Project Direction also included two stage gates around the HSE exemptions to the GS(M)R, with the full project funding not being made available until the second

exemption has been granted. Cadent has requested to remove the final stage gate as the final Project deliverable will now be the exemption for the North West trial area.

The rest of this letter provides our decisions on the requested changes. The amendments to the Project Direction to reflect our decision are set out in Schedule 1.

### **Decision on request to amend SDRCs 5 – 9**

We consider that amendments to these SDRCs are in the interests of network customers, as these changes will enable the project to deliver beyond the expected benefits and outcomes outlined in the Full Submission when the Project was approved and funded in 2018. We consider that the amended deliverables are timely and provide value to gas consumers. We also agree with Cadent that, based on their proposals, the second stage gate is no longer required as the final deliverables have changed. We are satisfied that the change requested by Cadent constitutes a Material Change and therefore amend the Project Direction accordingly.

We hereby amend Project Direction in the manner set out in Schedule 1 to this letter. This letter constitutes notice of reasons for our decision. We have published the amended Project Direction in Schedule 1, which supersedes all previous versions of the HyDeploy2 Project Direction.

If you would like to discuss any of the issues raised in this letter, please contact Rebecca Pickett ([Rebecca.Pickett@ofgem.gov.uk](mailto:Rebecca.Pickett@ofgem.gov.uk)).

Yours sincerely,

**Steven McMahon**

**Deputy Director, Electricity Distribution & Cross Sector Policy, Networks**

**For and behalf of the Authority**

# Schedule 1 - Project Direction

## 1. TITLE

Project Direction ref: Cadent Gas Limited / HyDeploy2 / ~~6<sup>th</sup> December 2018~~ 27 July 2021

## 2. PREAMBLE

This Project Direction is issued by the Gas and Electricity Markets Authority (the "Authority") to Cadent Gas Limited (the "Funding Licensee") pursuant to the Gas NIC Governance Document, ~~governed by issued pursuant to~~ Special Condition ~~1I-7.7 (RIIO-GD1 network innovation competition)~~ Network Innovation Competition of the Gas Transporter Licence (the "Licence"). It sets out the terms to be complied with in relation to HyDeploy2 (the "Project") as a condition of it's being funded under the NIC and the Funding Return Mechanisms.<sup>4</sup>

Unless otherwise specified, defined terms in this Project Direction have the meaning given to them in Appendix 1 of the Gas NIC Governance Document.

References to specific sections of the Funding Licensee's Full Submission in this Project Direction are, for ease of reference, made by referring to the section number in the Funding Licensee's Full Submission pro-forma.

## 3. CONDITION PRECEDENT

### Condition 1

The Funding Licensee will not access any funds from the Project Bank Account until it has signed contracts with the Project Partners named in Table 1.

#### Table 1. Project Partners

Northern Gas Networks Limited Health and Safety Laboratory Progressive Energy ITM Power Keele University
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### Condition 2

The Funding Licensee's access to funds will be staged.

- Prior to receipt of the first exemption referred to in the second bullet, it must not access more than **£8,495,000** for the purposes of the required stakeholder engagement, evidence gathering and enabling works preparatory to the first field trial, which is to be funded by the NIC.
- It must not access more than **£13,128,000** from the Project Bank Account after receiving the exemption from the Gas Safety (Management) Regulations (GS(M)R) from the Health and Safety Executive (HSE) for the first field trial but prior to receiving the exemption from the GS(M)R from the HSE for the second ~~field trial~~ region, apportioned as follows (a) up to £11,035,500 for the purposes of the first field trial and (b) up to £13,128,000 for the purposes of the required stakeholder engagement, evidence gathering and enabling works preparatory to the second exemption field trial region, which is to be funded ~~by~~ the NIC.

<sup>4</sup> The Funding Return Mechanism is defined in Special Condition 1I (Network Innovation Competition).

- ~~It must not access the balance of the Approved Amount prior to receiving the exemption from the GS(M)R from the HSE for the second field trial.~~

#### 4. COMPLIANCE

The Funding Licensee must comply with Special Condition ~~11~~7.7 of the Licence and with the Gas NIC Governance Document (as may be modified from time to time in accordance with Part C of Special Condition ~~11~~7.7) and with this Project Direction.

Any part of the Approved Amount that the Authority determines not to have been spent in accordance with this Project Direction (or in accordance with the Gas NIC Governance Document) is deemed to be Disallowed Expenditure.

Pursuant to ~~Special Condition 11~~the Gas NIC Governance Document, Disallowed Expenditure is revenue received (whether by the Funding Licensee or by another Licensee) under the NIC and Funding Return Mechanisms that the Authority determines not to have been spent in accordance with the provisions of the Gas NIC Governance Document or with those of the relevant Project Direction.

Pursuant to Chapter 8 of the Gas NIC Governance Document, Disallowed Expenditure includes any funds that must be returned if the Project is halted without ~~Ofgem's~~the Authority's permission, any funds that have not been spent in accordance with the approved Project Budget contained within the Project Direction, and any unspent funds on the completion of the Project.

#### 5. APPROVED AMOUNT FOR THE PROJECT

The Approved Amount is **£13,282,000**

#### 6. PROJECT BUDGET

The Project Budget is set out in Annex 1 of this Project Direction.

The Funding Licensee will report on expenditure against each line under the category total in the Project Budget, and explain any projected variance against each line total in excess of 5% as part of its detailed report, in accordance with Chapter 8 of the Gas NIC Governance Document. ~~Ofgem~~The Authority will use the reported expenditure and explanation to assess whether the funding has been spent in accordance with the Gas NIC Governance Document and with this Project Direction.

For the avoidance of doubt this reporting requirement does not change or remove any obligations on the Funding Licensee with respect to reporting that are set out in the Gas NIC Governance Document.

#### 7. PROJECT IMPLEMENTATION

The Funding Licensee must undertake the Project in accordance with the commitments it has made in the Full Submission approved by the Authority pursuant to the Gas NIC Governance Document and with the terms of this Project Direction. These include (but are not limited to) the requirements to-:

- (i) undertake the Project in accordance with the description set out in Section 2 (Project Description) of the Full Submission including a trial phase in one each of Cadent ~~and or~~ NGN's network areas and a second GS(M)R exemption in the other network area;
  - (ii) provide a Network Licensee Compulsory Contribution of £1,497,000;
  - (iii) complete the Project on or before the Project completion date of March 2023;
- and

- (iv) disseminate the learning from the Project at least to the level described in Section 5 (Knowledge Dissemination).

## 8. REPORTING

~~Ofgem~~ The Authority may issue guidance (as amended from time to time) about the structure and content of the Project Progress Report required by Chapter 8 of the Gas NIC Governance Document. The Funding Licensee must follow this guidance in preparing the reports.

As required by Chapter 8 of the Gas NIC Governance Document, the Funding Licensee must inform the Authority promptly in writing of any material event or circumstance likely to affect its ability to deliver the Project as set out in its Full Submission.

## 9. INTELLECTUAL PROPERTY RIGHTS (“IPR”)

In Section 5 of its Full Submission (Knowledge Dissemination) the Funding Licensee has stated that the Project conforms to the default IPR arrangements set out in Chapter 9 of the Gas NIC Governance Document. The Funding Licensee must therefore undertake the Project in accordance with the default IPR arrangements.

## 10. PROJECT DELIVERABLES

At the end of a Project, the Funding Licensee must commission a report from an independent third party that verifies whether the Project Deliverables set out in Table 2 below (which comply with Chapter 5 of the Gas NIC Governance Document) have been achieved.

After it has received the report the Funding Licensee must send it to the Authority. Where a Project Deliverable has not been achieved we will consider whether funding should be returned to customers using the Funding Return Mechanism. If the Network Licensee is deemed by ~~Ofgem~~ the Authority to be at fault for the non-delivery of the Project Deliverable, it is the proportion of funding assigned to it within Table 2 below, which may be returned to customers.

**Table 2. Project Deliverables**

Ref:	Project Deliverable	Deadline	Evidence	NIC Funding Request (%)
1	Customer Engagement Plan	31/10/19	Confidential Project report including: <ul style="list-style-type: none"> <li>Demographic assessment of trial location;</li> <li>Results from UK customer market research workshops relating to future energy changes;</li> <li>Results from hydrogen perception assessment to inform engagement;</li> <li>Customer Engagement strategy;</li> <li>Data protection strategy; and</li> <li>Example engagement material.</li> </ul>	5%
2	Evidence base for first trial	30/06/20	Confidential Project Summary Report addressing: <ul style="list-style-type: none"> <li>Overview of key issues;</li> <li>Core materials findings;</li> <li>Key Appliance Laboratory testing findings;</li> </ul>	29%

Ref:	Project Deliverable	Deadline	Evidence	NIC Funding Request (%)
			<ul style="list-style-type: none"> <li>• Key Appliance in-field testing findings;</li> <li>• Gas Characteristics;</li> <li>• Gas Detection;</li> <li>• Summary of Procedures findings; and</li> <li>• Evidence gap for second trial.</li> </ul>	
3	First Exemption submission	31/09/20	Evidence of Exemption submission: <ul style="list-style-type: none"> <li>• Receipt of application by HSE</li> </ul>	3%
4	First trial commencement	31/01/21	Short form report demonstrating: <ul style="list-style-type: none"> <li>• Completion of installation including photographic evidence of the facility; and</li> <li>• Evidence of first injection into grid.</li> </ul>	9%
5	Evidence base for second trial	<del>30/07/21</del> <u>31/03/22</u>	Confidential Project Summary Report addressing: <ul style="list-style-type: none"> <li>• Overview of key issues;</li> <li>• Core materials findings;</li> <li>• <u>Key industrial appliances findings;</u></li> <li>• <u>Key commercial appliances findings;</u></li> <li>• Key Appliance Laboratory testing findings;</li> <li>• Key Appliance in-field testing findings;</li> <li>• Gas Characteristics update;</li> <li>• Gas Detection update; and</li> <li>• Procedures update.</li> </ul>	12%
6	First trial completion <u>and interim roadmap report</u>	31/12/21	-Confidential Project Summary Report addressing: <ul style="list-style-type: none"> <li>• Technical summary of trial phase;</li> <li>• Customer engagement findings including assessment of hydrogen perceptions and experience during trial; and</li> <li>• Key learning for second trial</li> </ul> <p><u>Interim version of roadmap findings covering Network model assessment, Regulatory basis for deployment, commercial requirements and summary of engagement with BEIS, and summary of skills/training experience during trials and strategy for roll out.</u></p>	8%
7	Second Exemption submission	<del>31/10/21</del> <u>31/12/22</u>	Evidence of Exemption submission: <ul style="list-style-type: none"> <li>• Receipt of application by HSE</li> </ul>	3%

Ref:	Project Deliverable	Deadline	Evidence	NIC Funding Request (%)
8	Second trial commencement <u>Evidence dissemination roadmap</u>	<del>30/04/22</del> <u>31/12/22</u>	<del>Short form report demonstrating:</del> <ul style="list-style-type: none"> <li><del>Completion of installation including photographic evidence of the facility; and</del></li> <li><del>Evidence of first injection into grid.</del></li> </ul> <u>Project report outlining:</u> <ul style="list-style-type: none"> <li><u>Stakeholder map to inform evidence dissemination;</u></li> <li><u>Strategy for dissemination;</u></li> <li><u>Planned events/engagements.</u></li> </ul>	7%
9	Second Trial Exemption completion	<del>28/02/23</del> <u>31/03/23</u>	<del>Confidential Project Summary Report addressing:</del> <ul style="list-style-type: none"> <li><del>Technical summary of trial phase;</del></li> <li><del>Customer engagement findings including assessment of hydrogen perceptions and experience during trial; and</del></li> <li><del>Key learning for roll out.</del></li> </ul> <u>Evidence of successful Exemption:</u> <ul style="list-style-type: none"> <li><u>Receipt of Exemption certificate</u></li> </ul>	8%
10	Completion of wider network evidence base, roadmap & dissemination	31/03/23	Project Report including: <ul style="list-style-type: none"> <li>Evidence base relating to the use of blended hydrogen for industrial users, encompassing burner laboratory testing and field-testing results for boiler and direct fire applications;</li> <li>Roadmap findings including Network model assessment, Regulatory basis for deployment, commercial requirements and summary of engagement with BEIS, and summary of skills/training experience during trials and strategy for roll out; and</li> <li>Summary of dissemination activities undertaken.</li> </ul>	16%

## 12. USE OF LOGO

The Funding Licensee and Project Partners, External Funders and Project Supporters<sup>5</sup> may use the NIC logo for purposes associated with the Project but not use the Ofgem logo in any circumstances.

<sup>5</sup> As listed in Box 1.6 in Section 1 of the Full Submission pro-forma.



### 13. AMENDMENT OR REVOCATION

As set out in Chapter 8 of the Gas NIC Governance Document and this Project Direction, this Project Direction may be amended or revoked under the following circumstances:

- (i) if the Funding Licensee considers that there has been a material change in circumstance that requires a change to the Project Direction, and the Authority agrees; or
- (ii) to reflect amendments made to the Licence.

### 14. HALTING OF PROJECTS

This Project Direction is subject to the provisions contained in paragraphs Chapter 8 of the Gas NIC Governance Document relating to the halting of projects. By extension, this Project Direction is subject to any decision by the Authority to halt the Project to which this Project Direction relates and to any subsequent relevant Funding Direction issued by the Authority ~~pursuant to Special Condition 11 of the Licence.~~

In the event of the Authority deciding to halt the Project to which this Project Direction relates, the Authority may issue a statement to the Funding Licensee clarifying the effect of that halting decision as regards the status and legal force of the conditions contained in this Project Direction.

#### **NOW THEREFORE:**

~~In accordance with the powers contained in the Gas NIC Governance Document issued pursuant to Special Condition 11 of the Licence~~ The Authority hereby issues this Project Direction to the Funding Licensee in relation to the Project.

This constitutes notice of reasons for the Authority's decision pursuant to section 38A (Reasons for decisions) of the Gas Act 1986.

## ANNEX 1: PROJECT BUDGET

Cost Category	Cost (£k)
<b>Labour</b>	
	<del>6,150.31</del> <u>6,047.74</u>
<b>Equipment</b>	
	668.50
<b>Contractors</b>	
	<del>6,572.93</del> <u>6,675.50</u>
<b>IT</b>	
	-
<b>IPR Costs</b>	
	-
<b>Travel &amp; Expenses</b>	
	58.00
<b>Payments to users</b>	
	<del>120.00</del> <u>392.00</u>
<b>Contingency</b>	
	<del>1,029.00</del> <u>757.00</u>
<b>Decommissioning</b>	
	-
<b>Other</b>	
	370.00
<b>Total</b>	<b>14,968.74</b>