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for energy consumers

Southern Gas Networks Plc
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Date: 11th November 2026

Dear Southern Gas Networks,

Strategic Innovation Fund – Approval of the Material Change request request for SGN/Velocity Design with Hydrogen

The Strategic Innovation Fund (SIF) supports network innovation that contributes to the achievement of Net Zero, while delivering net benefits to energy consumers. It facilitates collaboration with other public funders of innovation so that activities appropriately funded by network consumers are coordinated with activities funded by Government, and funding gaps are avoided. The SIF Governance Document sets out the governance and administration of the SIF.[1]

On 29th June 2023, Southern Gas Networks was awarded SIF Funding for Velocity Design with Hydrogen (the Project).[2] Further to this decision, Ofgem[3] issued a SIF Project Direction.[4] On 31st October 2025, Southern Gas Networks submitted a Material Change request for the Project to the Authority. This was approved and an amended Project Direction was issued.

On 29th September 2026, Southern Gas Networks submitted a Material Change request for the Project to the Authority. This request is to extend the Project by a period of twelve months. The length of extension is attributed to delays caused by component

[11]https://www.ofgem.gov.uk/sites/default/files/2026-06/ED2%20SIF%20Governance.pdf
[2] Strategic Innovation Fund Round 1 Beta projects approved for funding | Ofgem
[3] The terms the "Authority", "Ofgem", "we" and "us" are used interchangeably in this document. The Authority refers to the Gas and Electricity Markets Authority. Ofgem is the Office of the Gas and Electricity Markets Authority.
[4] Strategic Innovation Fund Round 1 Beta projects approved for funding | Ofgem

failure which occurred in February and balancing the interests of another Ofgem funded project.

The component failed in February and required return to its international manufacturer. The Project has progressed on other aspects where possible while awaiting return of the component, however physical testing on site was not able to resume without the component.

The component returned to the test facility in September. Physical testing for the Velocity Design Project is unable to resume immediately as the testing equipment is being shared with other Ofgem funded project, LTS Futures. SGN have considered the different profiles of these projects and in this instance, prioritised the testing programme of LTS Futures.

The 12 month extension therefore accommodates 10 weeks of LTS Futures testing and 24 weeks of SIF Velocity testing. It accommodates the final portion of the project, with 10 weeks required to complete data analysis, report preparation, and the final IGEM close-out workshop, as planned for in the original submission. This results in a total remaining programme duration of approximately 11 months. To provide a reasonable level of contingency and ensure successful project completion the Project requested a 12 month extension.

Ofgem's review

As set out in chapter 1 of the SIF Governance Document, Ofgem is the decision-maker in the SIF. Furthermore, as set out in chapter 8, Ofgem will consider Material Changes in circumstances and requests to change SIF Project Directions on a case by case, and will engage with monitoring officers on Projects to support the assessment of Material Change requests.

Ofgem has reviewed this Material Change requested submitted by Southern Gas Networks and has engaged with the Monitoring Officer on the Project. Ofgem has reviewed the reasoning for the Material Change submitted by Southern Gas Networks and considers it to satisfy the Eligibility Criteria in chapter 3 of the SIF Governance because:

- That the requested change to the Project Direction should be approved as the requested change does not violate any of the Eligibility Criteria outlined in Chapter 3 of the SIF Governance Document.
- There is sufficient justification provided for the 12 month extension.

- Extending the Project will the enable the completion of the testing schedule and ensure results from the programme are fully consolidated for IGEM use That the requested change to the Project Direction should be approved as the requested change also does not violate the eligibility outlined in the Innovation Challenge Documentation.

As such, UKRI recommended approval of the Material Change request to Ofgem.

Decision

As a result of the reasons outlined above, Ofgem approves of this Material Change request.

In accordance with Section 17 of the Project Direction issued on 29th June 2023 and paragraph 8.28 of the SIF Governance Document, the amended SIF Project Direction for SGN/Velocity Design with Hydrogen is published in the Schedule 1 of this letter. The amended SIF Project Direction is effective as of the date of this letter and, unless stated otherwise, supersedes the SIF Project Direction issued on 29th June 2023. The letter constitutes notice pursuant to section 49A (Reasons for decisions) of the Electricity Act 1989 and 38A (Reasons for decisions) of the Gas Act 1986.

If you would like to discuss any of the issues, you can contact Ofgem via networks.innovation@ofgem.gov.uk. Alternatively, you can contact UKRI via SIF_Ofgem@innovateuk.ukri.org.

Yours sincerely,

Marzia Zafar
SRO for the Strategic Innovation Fund
Deputy Director of Digitalisation, Innovation and Decentralisation
For and on behalf of the Authority

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Schedule: Amended SIF Project Direction

1. PROJECT DETAILS

SIF Project Direction reference:
SGN/Velocity_Design_with_Hydrogen/SIFHeat/Rd1_Beta
Application number: 10068217
Project title: **Error! Reference source not found.**
Innovation Challenge/Project Phase: Heat / Beta Phase round 1
Project start date: 01 July 2023
Project end date:~~31 October 2026~~ 31 October 2027
SIF Approved Amount for SIF Funding: £5,912,144

2. PREAMBLE

This SIF Project Direction is issued by the Gas and Electricity Markets Authority (the "Authority") to Southern Gas Networks Plc (the "Funding Party") pursuant to the SIF Governance Document issued pursuant to Special Condition 9.13 of the Gas Transporter Licence (the "Licence"). It sets out the conditions to be complied with in relation to Velocity Design with Hydrogen – Beta (the "Project") as a condition of it being funded under the SIF Funding Mechanism.[5]

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

References to specific sections of the Funding Party's Application in this SIF Project Direction are, for ease of reference, made by referring to the section number in the Funding Party's Application.

3. PROJECT SPECIFIC CONDITIONS

In accepting funding for the Project, the Funding Party is subject to the following Project-specific condition(s):

Condition 1 – SIF Funding and contracts

The Funding Party must not spend any SIF Funding until contracts are signed with the Project Partners named in 1. Project Partners for the purpose of completing the Project.

1. Project Partners

DNV SERVICES UK LIMITED

[5] The SIF Funding Return Mechanism is defined in the SIF Governance Document.

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INSTITUTE OF GAS ENGINEERS AND MANAGERS
CADENT GAS LIMITED
WALES AND WEST UTILITIES LIMITED
NORTHERN GAS NETWORKS
NATIONAL GAS TRANSMISSION LTD

Condition 2 – Financial contribution

The Funding Party must report on the financial contributions made to the Project as set out in its Application. Any financial contributions made over and above that stated in its Application should also be reported and included within the Project costs template.

Condition 3 – Meeting arrangements

The Funding Party must participate in all meetings related to the Project that they are invited to by Ofgem, UKRI and DESNZ during and after the Beta Phase.

Condition 4 – Stage gate scoping

The Funding Party must, with support from Innovate UK/UKRI and, where applicable Ofgem, scope the requirements and success criteria for each stage gate within a Project at the quarterly reporting meetings ahead of any stage gate. These will be used to determine what criteria a Project must meet in order to pass a stage gate, and whether any additional information, such as a report, must be produced as part of the stage gate.

Condition 5 – Dissemination of annual progress report(s)

Each of the annual progress reports that the Funding Party publishes in the Beta Phase must, at a minimum, be uploaded to the ENA's Smarter Networks Portal. We also strongly encourage wider dissemination of the annual progress report(s) and support from all Project Partners in ensuring it reaches a wide audience.

Condition 6 – Impact monitoring

As part of the end of Project Phase report, the Funding Party must produce a Project Impact Monitoring and Evaluation Plan. This plan must outline how the Project plans to monitor and evaluate the delivery of benefits outlined in the Beta Phase Application following the end of the Beta Phase. The plan must also include the methodology that will be utilised for quantifying and qualifying benefits realisation and how the Funding Party plans to report this to Ofgem 1, 3, 5 & 10 years post-Beta Phase completion. Further details on how to approach the development of this plan may be provided by Ofgem or IUK.

Condition 7 – SIF Community Forums

The Funding Party and all Project Partners must make reasonable attempts to attend, participate and/or contribute at SIF Community Forum events occurring during the Project delivery. We anticipate there being approximately one event per year.

Condition 8 – Policy, regulatory and standards barriers

The Funding Party must provide verbal updates at each quarterly meeting on any regulatory, policy and standards barriers and any change requirements which may impact delivery of the Beta Phase activities. The Funding Party must also include as an attachment to each of its annual progress report an update on any regulatory, policy and standards barriers which may require derogations and articulation of any proposed regulatory, policy and standards changes which would be necessary in deployment. The Funding Party must also provide as an attachment to its end of Project Phase report a summary of the Project's findings on regulatory, policy and standards barriers, including any considerations for future work, and where applicable, where specific regulatory, policy and standards changes would be required for deployment.

Condition 9 – Updated 60-second videos

The Funding Party must provide within the first three months of the Project beginning (i.e. by 1 October 2023) an updated 60-second video. If the Project is greater than two years (longer than 24 months) in length, an updated video must also be provided at the Project's mid-point meeting. All Projects must also provide an updated 60-second video as part of their end of Project phase report. Innovate UK can share its guidance for 60-second videos with the Funding Party, if necessary.

Condition 10 – Consumer engagement

The Funding Party must provide an update on consumer engagement plans where applicable at the quarterly monitoring meetings. This must include an update on any activities which involve engagement and interaction with energy consumers, and any impact the Project may have on existing or future energy consumers and their premises.

Condition 11 – Post-Beta Phase roadmap

The Funding Party must provide updates to the monitoring officer where applicable during the quarterly monitoring meetings a roadmap for activities post-Beta Phase. This can build on the Project's Application question (question 11) and must focus on how and when the proposed solution will become business as usual within your network and across the other GB gas or electricity networks.
As part of this, the Funding Party must include consideration for:

I. any steps the Project will take to ensure its innovation has suitable business as usual adoption;

II. the Funding Party's strategy for adoption of the innovation or proposed solution, giving consideration to potential investment, ongoing costs and third-party involvement and;
III. any early indication of interest from other networks in adopting the innovation.

The Funding Party must provide an update on all the above at every two quarterly monitoring meetings (i.e. every six months) and must include a final update of this roadmap as attachment to its end of Project Phase report.

Condition 12 – Commercialisation strategy

The Funding Party must provide updates to the monitoring officer where applicable during the quarterly monitoring meetings an update on its commercialisation strategy. This can build on the Project's Application question (question 12) and must focus on what considerations have the Project consortium made for the commercialisation of the proposed solution or innovation, and how the Project provides support for non-network partners to move towards commercialisation. As part of this, the Funding Party may wish to include consideration for:

I. who the primary customer segment is beyond the Funding Party; the customer value proposition;
II. if identified, the outline of the route to market and potential new partnerships;
III. any additional Project Partner capital requirements in order to commercialize the innovation and;
IV. how this product, process or service could be scaled across the GB network and taken to new markets.

The Funding Party must also include a final update of its strategy as an attachment to its end of Project Phase report. Ofgem and/or Innovate UK may issue a template for the final update as part of the end of Project Phase report.

Condition 13

The Funding Party must provide as part of its third quarterly monitoring meeting an outline of how it will align and create synergies with other hydrogen feasibility and demonstration projects and how the Project's insights and learnings will feed into the wider Hydrogen Grid Research and Development Programme.

Condition 14

The Funding Party must include a work package prior to the completion of the Project for testing the Project's proposed solution on iron mains piping.

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Condition 15

The Funding Party must demonstrate an approach to Ofgem for maximising future value to all energy consumers for all activities occurring beyond the Beta Phase at the test facility at Spadeadam being constructed through the SIF in the Beta Phase. This outline should include any activities which the Funding Party plans to investigate related to the future opportunities for the test site, including outreach activities to raise awareness of the capabilities, opportunities for increased involvement by Project Partners or other network licensees, and opportunities for site use both nationally and internationally.

As part of this submission, the Funding Party must provide to Ofgem by 1 April 2024 a formal proposal for the future operation of the test site and how the Funding Party plans to maximise the future value of the test site to all energy consumers beyond the Project's Beta Phase activities. The Funding Party can work across the other Beta Phase Projects which have this condition (HyNTS Deblending for Transport Applications, HyNTS Compression) and note that this proposal can be fully or partially combined with those due from the other Beta Phase Projects. This should consider, but not be limited to:

I. The overall mechanism or approach for maximising consumer value from the SIF investment beyond the Beta Phase
II. Legacy ownership of assets on trial sites, including details on any decommissioning plans, and should there be no decommissioning following the Beta Phase, including statements of support from National Gas Transmission and any relevant third parties on the test site's physical and cyber security to ensure opportunities for continued use beyond the Beta Phase
III. Return of commercial royalties associated with SIF funded assets to the consumer, including for example, how any revenues generated by the construction of the Beta Phase test site will be returned to consumers and whether this will occur via the Funding Party or another mechanism
IV. Any approach to discounted or preferential access to test sites for GB network licensees or other organisations developing tests or technologies which are likely to benefit GB energy consumers
V. The approach to intellectual property (IP) arrangements and how these IP arrangements will facilitate the return of benefits to consumers
VI. A governance plan, including an outline of how decision making and spend controls relating to investment at the test site will occur beyond the Beta Phase and which may impact future SIF Projects and how the site will develop commercial business opportunities

The Funding Party must provide within the last six months of the Project [i.e. by 1 March 2025] an update on the above, including consideration for any new developments or opportunities that have occurred since the initial submission. Upon receipt of the Funding Party's proposal to Ofgem, Ofgem will determine whether to approve the proposal, or direct alternative arrangements prior to the completion of the Project's activities.

4. COMPLIANCE

The Funding Party must comply with Special Condition 9.13 of the Gas Transporter Licence (the "Licence"), the SIF Governance Document and with this SIF Project Direction.

5. SIF APPROVED AMOUNT

The SIF Approved amount of £5,912,144 (as detailed under Section 1: Project details of this Project Direction) will be recovered by National Gas Transmission from GB customers and transferred to the Funding Party. The Funding Party is responsible for notifying National Gas Transmission of the bank account details to which transfers must be made, in addition to completing Annex 2 of this SIF Project Direction. If a Funding Party is required to return funding to National Gas Transmission, the reverse applies. The Funding Party must provide bank account details to National Gas Transmission within two weeks of accepting this SIF Project Direction.

6. PROJECT BUDGET

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

The Funding Party must report on expenditure against each line under the category total in the Project Budget and explain any projected variance against each line as part of its detailed report which will be provided, in accordance with Chapter 7 of the SIF Governance Document. The Funding Party must report variations in the Project budget as outlined in Chapter 6 of the SIF Governance Document.

7. PROJECT IMPLEMENTATION

The Funding Party must undertake the Project in accordance with the commitments it has made in the Application and with the conditions of this SIF Project Direction. These include (but are not limited to) the following:

(i) undertake the Project in accordance with its Application,

(ii) complete the Project on or before the Project completion date as detailed under section 1 of the schedule of this SIF Project Direction, and

(iii) disseminate the learning from the Project at least to the level described in chapter 3 of the SIF Governance Document. Dissemination of learning must be carried out whether the Project was concluded successfully or otherwise.

8. REPORTING

Ofgem and UKRI may issue guidance (and amend it from time to time) about the structure and content of the Project reporting required by Chapter 6 of the SIF Governance Document. The Funding Party must follow this guidance in preparing the reports.

The Funding Party must submit an end of Project Phase report to UKRI monitoring officers for the Beta Phase. Within this report, the Funding Party must submit information related to questions on Project delivery as detailed in chapter 6, table 6 of the SIF Governance Document.

9. MONITORING

The Funding Party must comply with any reasonable request for information by its monitoring officer at UKRI and related deadlines. Ofgem, with the support of UKRI, will together monitor Project delivery, impacts and benefits. Throughout the term of the Project, progress is monitored by UKRI through a monitoring officer. The monitoring officer is the first point of contact for official notifications, queries and correspondence with UKRI and the Authority, unless otherwise required by this SIF Project Direction.

As detailed in Chapter 6 of the SIF Governance Document, meetings with the monitoring officer will take place at regular intervals, as advised by Ofgem or the monitoring officer during the delivery of the Project, and at the end of each Project Phase.

10. EVALUATION

The Funding Party has acknowledged when it submitted its Application for this Project, that reporting information and data gathered during the Project's timescales (as detailed in Section 1 of this SIF Project Direction) will be used to evaluate Project performance. In addition, the Funding Party may be required to provide requested information outside of the Project timescales and, in particular, for the period from the Project end date to the end of the SIF Programme. Further data and reporting information may be requested (frequency and method based on requirement) outside of standard monitoring and reporting requirements as deemed necessary. Further data

and information requirements must be complied with by the Funding Party and Project Partners.

11. DATA SHARING

As set out in Chapter 3 of the SIF Governance Document, the Funding Party must follow Data Best Practice Guidance with regards to all data gathered or created in the course of a Project. We expect the Funding Party to document any reasons, such as commercial sensitivities, for desensitising data. As defined by, and in accordance with, Data Best Practice Guidance, Funding Parties must have a data triage process. Where multiple Project Partners are collaborating on a Project, the consortium must adopt a consistent Open Triage Process for the data related to the Project. Ofgem may require that Project information and data is also shared with other specified parties, such as parties working on complementary innovation funding programmes (subject to redaction of sensitive data).

12. CYBER SECURITY

It is the responsibility of the Funding Party and all Project Partners to implement and maintain appropriate security measures to protect personal data in accordance with The GDPR (General Data Protection Regulation)[6] and DPA (Data Protection Act) 2018[7]. Protection of computer systems from unauthorised access or being otherwise damaged or made inaccessible must be in place alongside effective working practices. These must be maintained in line with the Funding Party's IT Management Strategies and policies.

13. PROJECT MILESTONES

The Funding Party must submit its end of Project Phase report to its monitoring officer that verifies the Project milestones have been achieved or explains why they have not.

Project milestones are outlined below in Table 1, based upon details contained within Question 7 and Appendix Question 9 in the Funding Party's.

[6] https://ec.europa.eu/info/law/law-topic/data-protection/data-protection-eu_en
[7] https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted

Table 1. Project milestones[8]

Reference	Project milestone	Deadline	Overall objectives and key tasks	Summary of Milestones and Success Criteria	SIF Funding Request (100%)
Milestone 1	Work package 1: Test facility design and build	5 July 2027	Overall work package objectives: Work package 1 is responsible for undertaking the detailed design of the test facility which enables all of the tests specified in the test schedule (developed by work packages 2 and 3) to be undertaken. Work package 1 will undertake the detailed design of the test rig, and manage the construction and fabrication. The test facility will be operated by work package 1 in accordance with the procedures developed in collaboration with work packages 2 and 3.	M1: detailed design and safety studies: approved design and safety studies (HAZID / HAZOP). (£140,000.00) M2: procurement of mechanical fittings: mechanical fittings on the MTO of the detailed design have been ordered within budget and purchase order confirmation with lead times provided. (£200,000.00) M3: procurement of PRI, pipework and valves: PRI and pipework and valves listed on the MTO of the detailed design have been ordered within budget and purchase order confirmation	£3,896,082.00 (66%)

[8] As outlined in in the Application or Project Plan appendix.

			Key tasks: 1. Detailed design of rig and civils structures 2.Safety studies including HAZID / HAZOP 3.Procurement of pipework, valves, and fittings 4.Reservoir inspection and modification 5.fabricate fill lines, pipe supports, and grit injection vessels 6.construction / installation of rig 7.pressure testing and commissioning of rig 8.operate test rig for WP2 tests 9.operate test rig for WP3 tests	with lead times provided. (£900,000.00) M4: Reservoir inspection and modification: high pressure reservoirs inspected, and modifications undertaken in accordance with the detailed design. (£140,000.00) M5: fabrication of rig: fabrication of fill lines, pipe supports, and grit injection vessels. (£400,000.00) M6: Installation of rig: order confirmation for NG and H2 gases in quantities specified in detailed design. (£200,000.00) M7: Rig pressure test and commissioning: Test rig pressure tested in accordance with detailed design report. Commissioning report and sign-off. (£200,000.00)	

			10.final reporting of test results	M8: procurement of H2 and NG: order confirmation for NG and H2 gases in quantities specified in detailed design. (£1,370,000.00) M9: Experimental testing with WP2 and reporting: Operation of test facility through to completion of WP2 tests and reporting. (£165,000.00) M10: Experimental testing with WP3 and reporting: Operation of test facility through to completion of WP2 tests and reporting. (£181,082.00)	
Milestone 2	Work package 2: Erosion and particle transport testing and analysis	30 August 2027	Overall work package objectives: Work package 2 will develop a detailed test schedule for undertaking erosion tests and particle transport tests on the test rig that is designed and built by WP1.	M1: Design input modelling: report containing modelling scenarios to input into detailed rig design. (£90,000.00) M2: Procurement and initial lab preparation: report detailing procurement with purchase	£816,373.00 (14%)

			The erosion and particle tests results will be used to assess existing models for determining erosional velocities, and particle transportation velocities in hydrogen Key tasks: 1. Modelling and input into detailed WP1 detailed rig design 2. Test preparation including selection of samples, instrumentation set-up 3. Testing and analysis for erosion above 7 bar 4. Testing and analysis for erosion below 7 bar 5.Testing and analysis for particle transportation 6. CFD modelling	order confirmation, and initial lab preparation. (£130,000.00) M3: Final installation set-up: report containing installation set-up. (£100,000.00) M4: below 7 bar erosion tests: completion of erosion tests in accordance with the detailed test schedule. (£100,000.00) M5: above 7 bar erosion tests: completion of erosion tests in accordance with the detailed test schedule. (£100,000.00) M6: particle transport tests: completion of particle tests in accordance with the detailed test schedule. (£100,000.00) M7: CFD modelling: CFD modelling to supplement test facility testing, to use validated model, and apply on different geometries. (£100,000.00)	

			7. Reporting	M8: Draft report: draft report containing analysis and results from erosion tests, particle transport tests, and CFD. (£50,000.00) M9: Final report: Final report containing analysis and results from erosion tests, particle transport tests, and CFD. (£46,373.00)	
Milestone 3	Work package 3: Vibration and noise testing and analysis	30 September 2026 26 July 2027	Overall work package objectives: Work package 3 will develop a detailed test schedule for undertaking vibration and noise tests on the test rig that is designed and built by WP1. The vibration and noise tests results will be used to assess existing models for determining allowable velocities in hydrogen, with regards to noise and vibration	M1: Design input modelling: report containing modelling scenarios to input into detailed rig design. (£80,000.00) M2: report detailing procurement with purchase order confirmation, and initial lab preparation. (£50,000.00) M3: report containing installation set-up. (£30,000.00) M4: completion of flow induced vibration and noise tests in accordance with the detailed	£354,273.00 (6%)

			Key tasks: 1. Modelling and input into detailed WP1 detailed rig design 2. Test preparation including selection of samples, instrumentation set-up 3. Testing and analysis for flow induced vibration and noise 4. Testing and analysis for flow induced pulsation 5.Testing and analysis for thermowells and regulators 6. Reporting	test schedule, and initial data review. (£40,000.00) M5: completion of low induced pulsation tests in accordance with the detailed test schedule, and initial data review. (£40,000.00) M6: completion of thermowell and regulator tests in accordance with the detailed test schedule, and initial data review. (£40,000.00) M7: draft report containing analysis and results from vibration and noise tests. (£40,000.00) M8: Final report containing analysis and results from vibration and noise tests. (£34,273.00)	

Milestone 4	Work package 4: Cost benefit modelling	28 March 2025	Overall work package objectives: To undertake network analysis modelling on a range of pressure tiers (LP/MP/IP) for 100% hydrogen and a 20% hydrogen blend. The modelling will include network analysis of service pipes. A cost-benefit analysis will be undertaken. A digital twin of the erosion/vibration test facility is being built. Key tasks: 1. modelling of gas velocities in service pipes for 100% hydrogen and 20% hydrogen blends 2. modelling of gas velocities in MP/IP systems for 100% hydrogen and 20% hydrogen blends	M1: Digital twin planning document: Digital twin plan agreed with WP1, WP2, WP3 in accordance with the detailed design. (£10,000.00) M2: Service pipe modelling: cost benefit modelling of service pipes for hydrogen and hydrogen blends. (£40,000.00) M3: Digital twin pre-test: pre-test complete for digital twin. (£5,000.00) M4: MP/IP modelling interim report: report containing preliminary results from modelling and cost-benefit analysis for MP/IP pipelines. (£55,000.00) M5: Additional LP modelling interim report: report containing preliminary results from modelling and cost-benefit	£276,724.00 (5%)

			3. modelling of gas velocities in LP systems for 100% hydrogen and 20% hydrogen blends 4. cost-benefit analysis 5. Reporting 6. Development of digital twin for erosion/vibration rig	analysis for additional LP pipelines. (£55,000.00) M6: MP/IP modelling final report: report containing final results from modelling and cost-benefit analysis for MP/IP pipelines. (£65,000.00) M7: Combined report - service pipe, additional LP, and MP/IP modelling: Report containing optimised cost-benefit analysis covering additional pressure tiers and range of assets for 100% hydrogen and 20% hydrogen blends. (£41,724.00) M8: Digital twin final report: Report containing digital twin of test facility. (£5,000.00)	

Milestone 5	Work package 5: Stakeholder engagement and project management	31 October 2027	Overall work package objectives: Project management and interface with external partners and stakeholders. Collaborate with IGEM by holding three workshops throughout the project and also during monthly meetings, to maximise the probability of developing hydrogen velocity models for erosion and vibration that are accepted by the industry for business as usual Key tasks: 1. stakeholder engagement through monthly meetings, cross-project collaboration meetings 2. Review of debris operator records related to high velocity	M1: Project kick-off: Project kick-off report including kick-off meeting slides and minutes. Updates from the detailed rig design, detailed test schedules, and cost benefit modelling, and initial stakeholder engagement. (£65,000.00) M2: IGEM workshop 1: Workshop held with DNV work package leads, project partners and IGEM representatives. Agree plan for project acceptance. (£10,000.00) M3: High velocity debris records analysis: Report containing review of debris operator records related to high velocity debris issues and remedial actions, providing outputs relevant to optimising hydrogen velocities. M4: IGEM workshop 2: Workshop held with DNV work package leads, project partners and IGEM	£315,741.00 (5%)

			debris issues and remedial actions 3. 3 x Workshops held with IGEM 4. Final report containing conclusions from IGEM workshops with aim of obtaining confirmation of acceptance of updated hydrogen velocities	representatives. Review plan for project acceptance. (£10,000.00) M5: IGEM workshop 3: Workshop held with DNV work package leads, project partners and IGEM representatives. Conclude project acceptance. (£10,000.00) M6: PM & quarterly reports: Invoicing proposed to be split into 10 payments for project duration: Update provided for all work packs, monthly meeting minutes, MO meeting minutes, discussions/meetings with other innovation projects. (£200,000.00) M7: Final report: Final report containing conclusions from IGEM workshops with aim of obtaining confirmation of	

				acceptance of updated hydrogen velocities. (£10,000.00)	
Milestone 6	Work package 6: Project Partners input Beta Phase	31 October 2027	Overall work package objectives: Project Partners input Key tasks: 1. Combined input of all Project partners over duration of the project 2. Input to align project delivery and outcomes with industry needs	M1: SGN Input: Ensure industry needs are met by project. (£112,968.00) M2: IGEM Input: Take Project outcomes into revised design codes. (£72,150.00) M3: Cadent Input: Ensure industry needs are met by project. (£13,750.00) M4: WWU Input: Ensure industry needs are met by project. (£14,496.00) M5: NGN Input: Ensure industry needs are met by project. (£13,200.00) M6: National Grid Gas Input: Ensure industry needs are met by project. (£13,835.00)	£252,941.00 (4%)

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14. USE OF LOGO

The Funding Party and the Project Partners, External Funders and Project Supporters or subcontractors[9] must not use the Innovate UK/UKRI and/or Ofgem logo for purposes associated with the Project in any circumstances.

As an alternative for use of both Ofgem and UKRI logos, all external Project communications must include the following standard form of wording:

(i) "this project is funded by network users and consumers under the Strategic Innovation Fund, an Ofgem programme managed in partnership with UKRI."

For additional guidance, refer to the communications and media guidelines for competition winners, detailed as part of your delivery pack. These guidelines are designed to help with some suggestions and encourage you to take a proactive approach to communicating about your Project.

15. SHARING OF LESSONS LEARNED

The Funding Party is required to ensure that the sharing of lessons learned and the facilitation of knowledge transfer is conducted as effectively as possible, to ensure that all parties, and therefore all consumers including future consumers, can benefit from Projects.

As contained within Chapter 3 of the SIF Governance Document, we require the Funding Party to work collaboratively to maintain the ENA Smarter Networks Portal so that all reporting and dissemination of learnings on Projects (as required by chapter 6 of the SIF Governance Document) is available via the ENA Smarter Networks Portal.

16. COLLABORATION

The Funding Party must collaborate with third-party innovators as Project Partners, as well as work closely with other parties in the energy supply chain, as set out in Chapter 3 of the SIF Governance Document.

The Funding Party must collaborate with other parties and with UKRI to organise an annual conference in a format appropriate to enabling the building of consortiums and disseminating learning widely. The conference may be a single event for gas and electricity, or more than one event, as appropriate.

[9] As detailed in the Application.

17. AMENDMENT OR REVOCATION

As set out in Chapter 7 of the SIF Governance Document, this SIF Project Direction may be amended or revoked under the following circumstances:

(i) if the Funding Party considers that there has been a material change in circumstance that requires a change to the SIF Project Direction, and the Authority agrees; or

(ii) to reflect amendments made to the Licence.

18. HALTING OF PROJECTS

This SIF Project Direction is subject to the provisions contained in Chapter 7 of the SIF Governance Document relating to the halting of Projects. By extension, this SIF Project Direction is subject to any decision by the Authority to halt the Project to which this SIF Project Direction relates and to any subsequent relevant SIF Funding Direction issued by the Authority pursuant to Special Condition 9.13 of the Gas Transporter Licence (the "Licence").

Further to the requirements in Chapter 7 of the SIF Governance Document, in the event the Authority decides to halt the Project, to which this SIF Project Direction relates, the Authority may issue a statement to the Funding Party clarifying the effect of that halting decision as regards to the status and legal force of the conditions contained in this SIF Project Direction.

NOW THEREFORE:

In accordance with the SIF Governance Document issued pursuant to Special Condition 9.13 of the Gas Transporter Licence (the "Licence") of the Licence the Authority hereby issues this SIF Project Direction to the Funding Party 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.

Failure to comply with the conditions of this SIF Project Direction means that Ofgem may treat all or part of the SIF Approved Amount received by the Funding Party as SIF Disallowed Expenditure.

ANNEX 1: PROJECT BUDGET

Cost Category	Total Project costs (£)
Labour	£3,775,846
Materials	£2,711,432
Subcontracting	£12,000
Travel and subsistence	£54,712
Other costs	£1,000
Total	**£6,554,990**

Project Partner	Total project costs (£)	Project contribution (£)	Total SIF Funding requested (£)	Project contribution (%)
SOUTHERN GAS NETWORKS PLC	£125,520		£125,520	
DNV SERVICES UK LIMITED	£6,302,039	£642,846	£5,659,193	
INSTITUTE OF GAS ENGINEERS AND MANAGERS	£72,150		£72,150	
CADENT GAS LIMITED	£13,750		£13,750	
WALES AND WEST UTILITIES LIMITED	£14,496		£14,496	
NORTHERN GAS NETWORKS	£13,200		£13,200	
NATIONAL GAS TRANSMISSION LTD	£13,835		£13,835	
Total	**£6,554,990**	**£642,846**	**£5,912,144**	**11%**