

Notes on Completion: Please refer to the appropriate NIA Governance Document to assist in the completion of this form. The full completed submission should not exceed 6 pages in total.

NIA Project Registration and PEA Document

Date of Submission

May 2016

Project Reference Number

NIA_NGGD0080

Project Registration

Project Title

Development of draft NGG standard for RTP pipelines

Project Reference Number

NIA_NGGD0080

Project Licensee(s)

Cadent

Project Start

April 2016

Project Duration

1 year and 0 months

Nominated Project Contact(s)

NGGD Project Manager – Sharon Harrison

Project Budget

£60,212.00

Summary

The draft standard will cover the design, construction, inspection, testing, operation and maintenance of RTP pipelines, for the transmission of dry natural gas (predominantly methane), with or without odourisation, at operating pressures above what is currently accepted for existing solid wall PE pipe.

Nominated Contact Email Address(es)

Innovation@cadentgas.com

Problem Being Solved

NGGD has recently installed and commissioned a Reinforced Thermoplastic Pipe (RTP), operating at 19bar, for the connection from a bio methane plant to the LTS. As there is currently no agreed UK standard for the use of RTP, this pipeline was designed and constructed in accordance with IGEM/TD/1 Ed 5. RTP systems are not specifically considered within the scope of this standard and so in order to facilitate further use of RTP pipes, it will be necessary to develop a dedicated UK Gas Industry Standard.

Method(s)

To develop the draft standard it will be necessary to engage with the HSE and other Industry experts in order to identify and understand any areas of concern that need to be addressed within the draft standard. Once an outline scope for the standard has been produced and agreed, a first draft will be developed for review by a stakeholder group. Following circulation, comments and feedback will be collated and discussed as necessary prior to incorporation into a second draft.

Scope

The draft standard will cover the design, construction, inspection, testing, operation and maintenance of RTP pipelines, for the transmission of dry natural gas (predominantly methane), with or without odourisation, at operating pressures above what is currently accepted for existing solid wall PE pipe.

Objective(s)

To produce and deliver a draft NGG RTP standard for approval by an industry stakeholder group.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

Agreement for the scope and content of the draft specification developed for RTP pipelines, identification of any further testing/evaluation required to address any outstanding queries identified.

Project Partners and External Funding

National Grid (100% NIA Funded)

MACAW Nil expenditure

Potential for New Learning

This will be part of the draft specification produced at the end of project.

Scale of Project

The draft standard will cover the design, construction, inspection, testing, operation and maintenance of RTP pipelines, for the transmission of dry natural gas (predominantly methane), with or without odourisation, at operating pressures above what is currently accepted for existing solid wall PE pipe.

Technology Readiness at Start

TRL3 Proof of Concept

Technology Readiness at End

TRL4 Bench Scale Research

Geographical Area

This work will be completed at the MACAW premises in Newcastle

Revenue Allowed for the RIIO Settlement

Not applicable

Indicative Total NIA Project Expenditure

Total NIA expenditure £60,212.

Total External expenditure £45,159.

Project Eligibility Assessment Part 1

There are slightly differing requirements for RIIO-1 and RIIO-2 NIA projects. This is noted in each case, with the requirement numbers listed for both where they differ (shown as RIIO-2 / RIIO-1).

Requirement 1

Facilitate the energy system transition and/or benefit consumers in vulnerable situations (Please complete sections 3.1.1 and 3.1.2 for RIIO-2 projects only)

Please answer **at least one** of the following:

How the Project has the potential to facilitate the energy system transition:

n/a

How the Project has potential to benefit consumer in vulnerable situations:

n/a

Requirement 2 / 2b

Has the potential to deliver net benefits to consumers

Project must have the potential to deliver a Solution that delivers a net benefit to consumers of the Gas Transporter and/or Electricity Transmission or Electricity Distribution licensee, as the context requires. This could include delivering a Solution at a lower cost than the most efficient Method currently in use on the GB Gas Transportation System, the Gas Transporter's and/or Electricity Transmission or Electricity Distribution licensee's network, or wider benefits, such as social or environmental.

Please provide an estimate of the saving if the Problem is solved (RIIO-1 projects only)

The potential benefit could be of the order of £80/m compared with steel installed by open cut equating to a benefit of approx. 120K on this project. Assuming at least 10 such connections were completed per annum, it is envisaged, the benefit could be £1.2m per annum.

Please provide a calculation of the expected benefits the Solution

On a connection 1.5km long the reduction in installation cost compared with steel would be £120,000. If there were 10 connections per annum this would give a total saving of £1.2m per annum. The whole life cost savings are to be evaluated as part of the project.

Please provide an estimate of how replicable the Method is across GB

Not applicable

Please provide an outline of the costs of rolling out the Method across GB.

Minimal tooling and training costs should be anticipated but are not known at this stage pending approval of specification.

Requirement 3 / 1

Involve Research, Development or Demonstration

A RIIO-1 NIA Project must have the potential to have a Direct Impact on a Network Licensee's network or the operations of the System Operator and involve the Research, Development, or Demonstration of at least one of the following (please tick which applies):

- A specific piece of new (i.e. unproven in GB, or where a method has been trialled outside GB the Network Licensee must justify repeating it as part of a project) equipment (including control and communications system software).
- A specific novel arrangement or application of existing licensee equipment (including control and/or communications systems and/or software)
- A specific novel operational practice directly related to the operation of the Network Licensees system
- A specific novel commercial arrangement

RIIO-2 Projects

- A specific piece of new equipment (including monitoring, control and communications systems and software)
- A specific piece of new technology (including analysis and modelling systems or software), in relation to which the Method is unproven
- A new methodology (including the identification of specific new procedures or techniques used to identify, select, process, and analyse information)
- A specific novel arrangement or application of existing gas transportation, electricity transmission or electricity distribution equipment, technology or methodology
- A specific novel operational practice directly related to the operation of the GB Gas Transportation System, electricity transmission or electricity distribution
- A specific novel commercial arrangement

Specific Requirements 4 / 2a

Please explain how the learning that will be generated could be used by the relevant Network Licensees

'information can be shared with other network licensees'

Or, please describe what specific challenge identified in the Network Licensee's innovation strategy that is being addressed by the project (RIIO-1 only)

n/a

- Has the Potential to Develop Learning That Can be Applied by all Relevant Network Licensees

Is the default IPR position being applied?

- Yes

Project Eligibility Assessment Part 2

Not lead to unnecessary duplication

A Project must not lead to unnecessary duplication of any other Project, including but not limited to IFI, LCNF, NIA, NIC or SIF projects already registered, being carried out or completed.

Please demonstrate below that no unnecessary duplication will occur as a result of the Project.

This is a new specification

If applicable, justify why you are undertaking a Project similar to those being carried out by any other Network Licensees.

n/a

Additional Governance And Document Upload

Please identify why the project is innovative and has not been tried before

n/a

Relevant Foreground IPR

n/a

Data Access Details

n/a

Please identify why the Network Licensees will not fund the project as apart of it's business and usual activities

n/a

Please identify why the project can only be undertaken with the support of the NIA, including reference to

the specific risks(e.g. commercial, technical, operational or regulatory) associated with the project

n/a

This project has been approved by a senior member of staff

Yes