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

Dec 2015

Project Reference Number

SGNGN03

Project Registration

Project Title

Real-Time Networks

Project Reference Number

SGNGN03

Project Licensee(s)

SGN

Project Start

April 2016

Project Duration

4 years and 1 month

Nominated Project Contact(s)

Alexander Webb, Innovation Project Manager - Angus McIntosh, (Angus.mcintosh@sgn.co.uk)

Project Budget

£7,998,000.00

Summary

This project seeks to develop, install and demonstrate a flexible ‘real-time’ network that will enable the GB gas network to meet current and evolving needs. The project will install and demonstrate sensing technologies, associated hardware and software, and infrastructure in a representative section of the GB gas network.

Nominated Contact Email Address(es)

sgn.innovation@sgn.co.uk

Problem Being Solved

Method(s)

Scope

This project seeks to develop, install and demonstrate a flexible ‘real-time’ network that will enable the GB gas network to meet current and evolving needs. The project will install and demonstrate sensing technologies, associated hardware and software, and infrastructure in a representative section of the GB gas network.

Objective(s)

The project seeks to create a stream of real-time data and associated ‘big data’ analytics that will afford an understanding of network operation never before achieved. If successful, this will allow a re-write of network fundamentals and demonstrate a flexible platform for both present and future new gas sources and downstream renewables.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

The aim of this project was to create a real-time modelling approach that will enable a gas network for the future that is flexible, secure, cost effective and safe. The objective was to provide the detailed understanding of bottom-up demand, and its application in network modelling of the below 7 bar systems, that will be the basis for optimal gas network design and operation. The project seeks to meet the complex needs of the modern energy market with gas central to the overall mix and to decarbonisation. This project aimed to develop an understanding of the challenges facing the gas industry by undertaking a pilot demonstration of a real-time network. A planned and controlled trial on a typical gas distribution network has been carried out, incorporating existing SGN infrastructure as well as new sensors and loggers to provide the data for testing the real-time network concept.
The current demand algorithms are documented in the IGEM Guidance IGE/GL/1 “Planning of gas distribution systems of MOP not exceeding 16 bar”. It is anticipated that if output from the project is adopted by the industry the update of that guidance will follow.

Project Partners and External Funding

n/a

Potential for New Learning

n/a

Scale of Project

n/a

Geographical Area

Revenue Allowed for the RIIO Settlement

Indicative Total NIA Project Expenditure

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)

n/a

Please provide a calculation of the expected benefits the Solution

n/a

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

n/a

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

n/a

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

n/a

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

Please demonstrate how the learning from the project can be successfully disseminated to Network Licensees and other interested parties.

Please describe how many potential constraints or costs caused, or resulting from the imposed IPR arrangements.<

Please justify why the proposed IPR arrangements provide value for money for customers.

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.

n/a

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