

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

Oct 2015

Project Reference Number

NIA_NGGD0057

Project Registration

Project Title

ServiBoost

Project Reference Number

NIA_NGGD0057

Project Licensee(s)

Cadent

Project Start

October 2015

Project Duration

1 year and 4 months

Nominated Project Contact(s)

Philip Halsey – Project Manager National Grid, Tony Nixon – Project Sponsor National Grid, Wez Little – Project Supplier Synthotech

Project Budget

£401,098.00

Summary

The scope of this project is a Proof of concept for designing a Servi-Boost device.

The project will deliver:- Technical report detailing outcomes and results with an initial prototype device being developed.

Nominated Contact Email Address(es)

Innovation@cadentgas.com

Problem Being Solved

National Grid has a license obligation to maintain pressures to the ECV of a property.

Design minimum pressure for low pressure systems shall be no lower than:

-19mbar for systems designed pre January 1996

-20.75 mbar for systems designed post December 1995

Low gas pressures are evident when the gas supply to a customer's property fails to meet the minimum pressure required to keep their appliances functioning correctly. There are numerous causes for low pressure including: undersized service pipe, low mains pressures in the area whilst work is being undertaken, new connections or greater demand by a property taking more gas than was originally designed for.

The impact of low pressures results in a customer's gas supply being interrupted until a resolution has been identified and resolved.

It is important to minimise the length of an interruption to our customers by identifying a solution that can be installed promptly with minimal disruption, as any lengthy resolutions may result in complaints in some instances and create bad publicity for the business.

Method(s)

The objective is to develop an alternative innovative solution in addressing low gas pressures in domestic service pipes, focussing on shorter interruption periods for our customers without the need to alter the network design infrastructure or elevating gas operating pressures.

Scope

The scope of this project is a Proof of concept for designing a Servi-Boost device.

The project will deliver:- Technical report detailing outcomes and results with an initial prototype device being developed.

Objective(s)

The aim is to undertake a proof of concept design of a Servi-Boost device for its intended use in domestic services with a flow no greater than 6scm/h.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

Success of this project will be the report detailing the outcome proof of concept with the inclusion of recommendations in relation to next of next steps.

Project Partners and External Funding

n/a

Potential for New Learning

n/a

Scale of Project

Report expected for delivery. No site work.

Technology Readiness at Start

TRL3 Proof of Concept

Technology Readiness at End

TRL4 Bench Scale Research

Geographical Area

National Grid Offices, Brick Kiln Street Hinckley

All other works Synthotech offices – Harrogate, North Yorkshire

Revenue Allowed for the RIIO Settlement

No Revenue Allowed for in the RIIO Settlement.

Indicative Total NIA Project Expenditure

£401,098.50 **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)

Specific financial benefits are unable to be quantified at this stage of the project due to the low TRL, the proof of concept will give an indication to the cost of a Servi-Boost device once the project has been completed.

Please provide a calculation of the expected benefits the Solution

Not applicable – research only

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

This Method could be applied by all Network Licensees if successful, it could be utilised wherever low pressures exist in isolated situations.

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

Rollout costs will consist of equipment purchase or hire, training costs and the cost of any required changes to relevant national or local policy for this work type.

It is expected that the costs will be significantly outweighed by the benefits but a figure is difficult to propose at this stage due the variables highlighted

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

Learning generated will be in the form of an output report, which will articulate the success of the project. This output report can be freely shared for use by all relevant Network Licensees for their perusal

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

Not applicable

- 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.

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