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 2016

Project Reference Number

NIA_WWU_033

Project Registration

Project Title

Development of a Risk Based Approach for Safe Control of Operations

Project Reference Number

NIA_WWU_033

Project Licensee(s)

Wales & West Utilities

Project Start

October 2016

Project Duration

1 year and 10 months

Nominated Project Contact(s)

Thomas James – WWU (Lead network), Dominic Cummings (Technical Lead) & Oliver Machan (Innovation Lead) – SGN, Iain Foster – NGN, Colin Steer - CAD

Project Budget

£78,951.00

Summary

The scope of this work includes:

- Development of an innovative risk based approach to the selection of suitable methods of control such as Permits to Work, Non-Routine Operations, Routine Operations and Method Statements based upon a consistent application of the HS&E risk criteria;
- Distinguishing between elements of IGEM/GL/6 which are best managed on an industry wide basis (i.e.: safety fundamental requirements for all GDNs) versus those which can be achieved using a company specific approach;
- Providing a consistent and practical framework which provides:
  - focus that is proportionate to the risks present, and the complexity of the tasks being done;
  - clear identification of links between other SCO standards and regulatory requirements such as working at height, deep excavations and hot work when multiple hazards are present;
  - uniform and defined training leading to clear identification of competency requirements to execute SCO;
  - an effective system of feedback to truly enable lessons identified during root cause analysis following incidents to be quickly and sustainably incorporated into the safe control of operations process and associated competency management processes;
- Provide guidance on applicable UK legislation relevant to industry.
- Engaging with all GDNs through the process to establish key milestones and incorporate UK industry best practice in conjunction with other best practices implemented world-wide.

Nominated Contact Email Address(es)

innovation@wwutilities.co.uk

Problem Being Solved

At the time of Network Sale, in 2005 it was agreed that the four GDNs would continue to have a consistent approach to the Safe

Control of Operations (SCO) procedures. As a result, the same suite of procedures has been used by all four GDNs.

However although these procedures continue to require a common and consistent approach across the industry. The procedures are not flexible and do not take into account the risk of completing work on site. There are also many areas where IT and processes have improved and there is the opportunity to share best practice across the UK.

The current Safe Control of Operation procedures are document in:

- IGEM/GL/6 Edition 2
- GDN/PM/SCO/1,2,4,5

The requirement for the identification of the level of SCO control to be allocated to a specific work activity is identified utilizing GDN/PM/SCO/1. This is very prescriptive and does not take into account the risk associated with a specific work activity. The proposal is to undertake a risk assessment of the current and any potential new SCO work activities and the associated controls required to ensure safe and efficient working on the gas networks.

Method(s)

The full methodology proposed to undertake the Risk Based Approach to Safe Control of Operation, is set out below. The staged approach will facilitate the management of the development of a risk based approach, engagement of stakeholders, development of the procedure and development of an implementation guide for the GDN's. The main steps in the development of the risk based approach will be:

Scoping & Risk Based Methodology Development

The development of the risk based approach will be under the guidance of the Gas Networks Collaboration Forum (GNCF) which meets at a national level between the GDN's. The project will take the format of an initial scoping exercise focusing on consultation with industry and stakeholders leading to the development of a new standard. Feedback will be gathered to compile views on extent of updates required in order to produce an over paper for GNCF detailing the proposed direction for approval.

The Steering Group will hold a risk workshop to agree preliminary approach to be applied to updates, and circulated for input. The risk based methodology identified and is based on a standard 5x5 risk assessment methodology which will be applied to current SCO and identified non-SCO activities to produce a hierarchy of activities based on their risk.

External Stakeholder Engagement

The Project Steering Group (PSG) will manage key consultation and engagement with the stakeholders and other interested parties. This will enable proactive consideration of potential impact of changes on training processes, whilst still enabling mobility of contractors and individuals within the industry. The engagement process will begin alongside the project.

Develop 1st Draft of Standard

Full revision to be done based upon scoping study recommendations and feedback collated from all stakeholders. Independent Chair to develop first draft and circulate to PSG for Comment.

Develop 2nd Draft of Standard

Full revision to be done based upon scoping study recommendations and feedback collated from all stakeholders. Independent Chair to develop second draft and circulate to PSG for Comment.

External Stakeholder Standard Review

The Steering Group will manage key consultation and engagement with stakeholders and other interested parties. This will enable proactive consideration of potential impact of changes on training processes, whilst still enabling mobility of contractors and individuals within the industry.

Final Report sent to IGEM as the holder of IGEM/GL/6 for Publishing in 2017.

Development of Implementation guide for GDNs

A supplementary guide will also be developed concurrently to the standard update which will enable consistent interpretation of the requirements of the new standard for the activities which impact GDNs.

Scope

The scope of this work includes:

- Development of an innovative risk based approach to the selection of suitable methods of control such as Permits to Work, Non-Routine Operations, Routine Operations and Method Statements based upon a consistent application of the HS&E risk criteria;
- Distinguishing between elements of IGEM/GL/6 which are best managed on an industry wide basis (i.e.: safety fundamental requirements for all GDNs) versus those which can be achieved using a company specific approach;
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  - an effective system of feedback to truly enable lessons identified during root cause analysis following incidents to be quickly and sustainably incorporated into the safe control of operations process and associated competency management processes;
- Provide guidance on applicable UK legislation relevant to industry.
- Engaging with all GDNs through the process to establish key milestones and incorporate UK industry best practice in conjunction with other best practices implemented world-wide.

Objective(s)

The objective is to develop a new risk based methodology to improve how complex tasks are planned, executed, and managed to enhance operational control whilst potentially streamlining the administrative process.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

The output will be the delivery of a revised industry standard that supports specific GDN and SCO requirements. The criteria for success of this project include:

- Creation of a risk based approach for management of the safe control of operations applicable;
- Defined training and competency requirements for roles required in an SCO process;
- Clarity on processes required when multiple hazards are present; and
- New guidance for dealing with audit & inspection requirements of SCO.
- Supplementary guide for GDNs to SCO GL/6

Project Partners and External Funding

n/a

Potential for New Learning

n/a

Scale of Project

The project is to develop a risk-based methodology for maximising safety, whilst minimising costs for businesses by allowing prioritisation of resources towards high risk activities. This will strengthen the GDNs approach to risk management to prevent incidence of injury, and environmental harm resulting from inadequate focus the hierarchy of controls to the hazard risk whilst working on the UK gas network. The standard would be designed to enable a two-tier system where the Industry standard states ‘what’ the minimum requirements are. Each company would determine ‘how’ it would be implemented within their organisation.

The project will involve the four GDN’s and a number of stakeholders including the Health & Safety Executive, Utility Infrastructure Provider’s (UIP’s), Meter Asset Manager’s (MAMs), Local Transmission system (LTS), National Transmission system (NTS), Energy & Utility Skills (EUS), Institution of Gas Engineers & Managers (IGEM). The output of the project will be applicable to gas distribution network of Great Britain, and will inform all personnel who work on the UK gas infrastructure of the procedural requirements and their responsibilities under the Safe Control of Operation Permitry System.

Technology Readiness at Start

Technology Readiness at End

TRL3 Proof of Concept	TRL8 Active Commissioning

Geographical Area

The gas distribution network of Great Britain, to inform all personnel who work on the UK gas infrastructure of the procedural requirements and their responsibilities under the Safe Control of Operation Permitry System. The developed documentation shall be applied throughout the gas industry on Distribution Networks and certain types of Meter Installations.

Revenue Allowed for the RIIO Settlement

None

Indicative Total NIA Project Expenditure

External costs £59,213 (Bureau Veritas) + a total maximum allowable internal cost = Total cost £78,951 shared as follows.

NGGD - £39,475

SGN - £19,738

NGN - £9,869

WWU - £9,869

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)

Financial Benefit = £63,285

This is a collaborative project involving all the GDN's. Implementation will be rolled out to varying degrees by each of the GDN's, dependant on competency requirements and risk evaluation. Savings for WWU network will therefore only be extrapolated with a 4x multiplier (or 50%) in order to provide a conservative estimated savings figure across all 8 GDN regions.

Cost saving administrative £1,440 per annum by reduction in paper usage and other associated costs.

Cost saving Reliability £40,000 per annum by reducing number of loss of supply incidents during SCO work.

Cost Saving Environmental £16,000 per annum by efficiencies in working practice and loss of gas incidents during SCO work.

Cost Saving Safety £25,845per annum by increasing onsite supervision for high risk activities.

There will be an implementation cost of the new SCO approach (separate from this project). This cost is estimated to be £200,000 to cover training, system updates, etc. The project will be evaluated over a 10yr period, and for the purposes of this comparison, this cost will be split equally over the period i.e. £20,000 per annum.

Total benefit is £1,440+ £40,000 + £16,000 + £25,845 – 20,000 = £63,285 per annum

Please provide a calculation of the expected benefits the Solution

Estimated current cost of SCO Process to operate

Cost administrative	£7,680 per annum
Cost Reliability	£200,000 per annum
Cost Environmental	£240,000 per annum
Cost Safety	£121,100 per annum

Total £568,780 per annum

Base Cost = £568,780 per annum (existing cost)

Method Cost = £568,213 - £83,285 + £20,000 = £505,495 per annum (calculated from base cost – savings + implementation)

Financial Benefit = Base cost – Method cost

Financial benefit = £63,285

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

The risk based process for SCO could be applied to all applicable sites where the SCO criteria is applied as stated in the new procedure to be developed and will be published in IGEM/GL/6. All GDN's are involved in the development process and can provide feedback during the development process to ensure the suitability of risk based SCO approach. The SCO procedure applies to location where live gas working is being undertaken and a selection of the high risk occupational safety activities as stated in the SCO documentation.

The project includes the development of implementation guides for the GDN's

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

Cost will be network specific but can be implemented as an incremental change with minimal impact and associated costs, due to change in methodology of working and management.

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

The learning and documented procedures will provide:

- more efficient and effective use of resources proportionate to the risks faced;
- reduction in compliance costs and burdens on customers; and
- greater flexibility to respond to emerging risks as new technology and methods for completing tasks change.

These benefits will be available to all of the Gas Distribution Networks if implemented.

The project will require collaborative working across the GDNs to ensure a pragmatic solution is developed. As the Project Partner Bureau Veritas will be used to research other industry and worldwide pioneering methods to and provide technical guidance risk based methodology creation. The project will deliver a new risk based methodology that will enable enhanced operational control and deliver an industry first process for managing operational tasks based on risk.

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.

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