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

Jun 2018

Project Reference Number

NIA_SGN0123

Project Registration

Project Title

Incident Management (Stage 2 – Phase 1)

Project Reference Number

NIA_SGN0123

Project Licensee(s)

SGN

Project Start

June 2018

Project Duration

0 years and 11 months

Nominated Project Contact(s)

Oliver Machan, Innovation Project Manager

Project Budget

£152,251.00

Summary

Loss of supply incidents can affect hundreds or thousands of properties and the current software tools used to support the process of managing the incident response are not integrated or fit for purpose. More significantly, a major loss of supply incident (affecting 100,000 properties) will currently present significant challenges to a GDN in managing the incident.

Incidents that place a high demand on resources to investigate and manage are not limited to 'actual' loss of supply. In January 2013 the 'French Gas Cloud' resulted in a period of high call volumes to the national emergency number and onward to the GDN operational control centers. Subsequent investigation work was also carried out by regional depot staff. Approximately 50% of the cost of the incident was spent on admin staff having to capture and process data to ensure every customer had a visit or had some form of contact from a GDN. This also had an ongoing fiscal impact of other depot staff having to back-fill and additional assistance to maintain on-going depot activities during the incident.

A major incident (of any kind) will require the GDN to provide significant resources, and come at a considerable cost. Operations require a comprehensive solution to manage information and resources during a large-scale incident and to enable a quicker decision-making process on resource requirements. The information captured by the solution will also help to provide accurate cost information after the incident's resolution and onward recharge where appropriate to ensure the GB Gas customer is not paying for other companies' errors when working or operating near gas mains and assets.

Following the successful conclusion of Stage 1 (http://www.smarternetworks.org/project/nia_sgn0091), we're continuing to assess the possibility of introducing a more advanced innovative incident management platform solution to improve the operational processes, specifically around customer interaction, people and resource management and incident recharge (where appropriate) using the fire service incident response methodology as a starting point. This was identified as the best in practice fit following an earlier prequalification exercise.

Nominated Contact Email Address(es)

sgn.innovation@sgn.co.uk

Problem Being Solved

Loss of supply incidents can affect hundreds or thousands of properties and the current software tools used to support the process of

managing the incident response are not integrated or fit for purpose. More significantly, a major loss of supply incident (affecting 100,000 properties) will currently present significant challenges to a GDN in managing the incident.

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Method(s)

Stage 2 Phase 1 will deliver a proof of concept (PoC) model using simulated data based on the scope requirements defined in Stage 1 using the following method:

- Stage 1 requirements confirmation and analysis
- Initial configuration of prototype & integration
- Install of ArcGIS modules for desktop and online system
- Combined system setup and configuration
- Initial user show and tell with follow-up review
- Final configuration of prototype & integration
- Final user show and tell with follow-up review
- Deployment and testing of PoC and feedback
- Phase 2 beta build scope definition and proposal

Scope

Stage 1 of the project successfully delivered the following outputs:

- Investigate and fully understand SGNs existing Incident Management Process
- Develop and propose changes and technical enhancements to the Incident Management Process.
- Demonstrate potential technical solutions to improve the Incident Management Process, through mock ups and use cases, and to present those solutions to SGN for usability feedback.

Using the outputs from Stage 1, Stage 2 Phase 1 continuation of the project will deliver the following functions as an output at TRL 4, or working demonstration/proof of concept software using simulated data:

- Incident chronology recording including imagery where required
- Customer/address management
- Ground operative mobilisation/orientation/management via associated mobile app
- Plume prediction modelling for odorisation dispersion and methane LEL
- Integrated post incident costing/recharge reporting
- Role specific dashboards and instantaneous MI
- Alignment to the strategic/tactical/operational command structure (gold/silver/bronze)
- Organisational chart management
- General GIS integration
- Mobile Incident Unit integration via Satcoms
- Data Visualisation and Video conferencing facility between control hubs

Objective(s)

The objective of this work is to develop a working Proof of Concept system that aligns to the Stage 1 requirements to take forward to a beta production and testing stage. The vendors, selected through a procurement exercise, propose to integrate a cloud based mobile forms system with a cloud based graphical interface for spatial data storage, analysis and visualisation. Together they will provide a secure, online solution for incident management. This will ensure that at the end of the overall project the industry has a robust and complete incident management solution that is ready for implementation.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

The following success criteria for the project are:

Confirmation through evidence and report as to whether or not the Solution can perform each of these functions:

- Record, organise, analyse and distribute information about incidents, actions, people and assets, managing relevant information in one place, securely and available for access from mobile devices (Making use of the SGN Mobile Incident Units where applicable)
- Easily share information and plan for incidents, issues and events
- Log events, decisions or actions, track tasks and manage requests and related actions, resources and escalations
- Manage related claims, work orders, checklists, preventative or corrective actions to ensure incident management processes are followed, and measures are implemented to address or prevent incidents
- Communicate to and from any number of stakeholders via email, SMS, voice and digital and social media
- Get strategic, tactical or operational overview of incident information, analyse and visualise data in tables, charts or maps, and drill down to precise detail
- Enforce and automate processes, workflows, actions, escalations, notifications or plans.
- Tailor information, reports, views and workflows at any time, without needing technical staff to customise software.

Project Partners and External Funding

n/a

Potential for New Learning

n/a

Scale of Project

This project has been designed to be the second stage of a larger project developing a Gas Industry system. Adopting a stepwise approach allows the costs and risks to be managed whilst at the same time gauging the technical viability for the following stage.

Technology Readiness at Start

TRL3 Proof of Concept

Technology Readiness at End

TRL4 Bench Scale Research

Geographical Area

The feasibility study will be undertaken at vendor offices with visits to SGN staff and locations as and when required. No fields trials are planned during this stage but the PoC will be validated in house using simulated data.

Revenue Allowed for the RIIO Settlement

There are no direct saving benefits anticipated.

Indicative Total NIA Project Expenditure

The total expenditure is £152,251, 90% of which (£137,026) will be recovered via the NIA funding mechanism in line with the funding conditions.

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)

It is difficult to accurately quantify the actual financial benefit at this stage; as indicated by the low start TRL shows the Method is at an early stage of development and cost estimates will be refined as it is further developed. However, it is envisaged that deployment of this technology may lead to financial benefits in the following areas:

- More efficient use of resources during an incident
- Better customer visibility during an incident
- Full value recharge where a third party is responsible
- Reduction of administration post incident

Please provide a calculation of the expected benefits the Solution

N/A – this is a research project.

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

The potential outcome of this project is applicable across GDNs. All the GDNs will have an incident response requirements and function. The novel licencing model being developed should make it a more favourable option to each of the networks current base methods.

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

There are no costs associated with sharing the outputs and recommendations of this study with the other Network Licensees, which will be the first step to roll across GB.

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

By undertaking this development work the gas industry can share the overall cost, knowledge, risk and subsequent benefit from development and testing. The platform is being developed to be a standalone cloud based system and enterprise agnostic so will be available to all Networks for utilisation.

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

The project aligns to the target area of Incident Response in regards to Emergency and Safety.
☑ 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

- [x] Yes