

NIA Project Registration and PEA Document

Date of Submission

Apr 2013

Project Reference Number

Project Registration

Project Title

Network Resilience

Project Reference Number

Project Licensee(s)

Electricity North West

Project Start

June 2009

Project Duration

0 years and 3 months

Nominated Project Contact(s)

Electricity North West Innovation Team

Project Budget

£4,025.00

Summary

Electricity North West was one of a number of collaborating partners who supported the IFI funded Met Office EP2 project during 2007/2008. As part of EP2, weather related network faults for both the distribution and transmission networks were analysed in conjunction with the met office weather data for the period 1980 to 2007 and this preliminary study allowed a basic understanding of the dominant fault causes and their relationship with weather and the relevance of large scale atmospheric motion on network faults although this initial work offered little granularity for individual companies. The final reports were discussed at some length by the various partners and one aspect distribution companies identified that merited further work was the potential impacts on network resilience under various climate change projections.

Nominated Contact Email Address(es)

innovation@enwl.co.uk

Problem Being Solved

Method(s)

Scope

Objective(s)

A level of uncertainty exists within the industry relating to the variations in network design standards and their level of inherent resilience to weather conditions therefore this project was initiated to outline the basic requirements and investigate the possibility of delivering a realistic output. The study will develop the specific user requirements by consultation (based on what should be included i.e. lightning faults, rain faults, snow sleet and blizzard faults, freezing fog faults, wind and gale faults, solar heat faults, flooding faults, site specific and area representative wind resources) and then assess the various methods of modelling their effects on fault rates and network resilience.

There is low confidence associated with directly modelled winds in climate models and EP2 identified that weather type analysis

(because the synoptic pattern is larger scale) may provide an alternative method to project wind and thus wind related faults and wind resource. The project will include an assessment of the potential confidence factors associated with various modelling techniques and include detailed minimum and optimum outputs for a range of timescales (5 days, 5 – 10 years and 40 – 50 years).

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

n/a

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