NIA Project Registration and PEA Document

Date of Submission

Feb 2013

Project Reference Number

Project Registration

Project Title

Collaborative ENA Research & Development Programme

Project Reference Number

Project Licensee(s)

UK Power Networks

Project Start

April 2006

Project Duration

4 years and 0 months

Nominated Project Contact(s)

UKPN Innovation Team

Project Budget

£845,104.00

Summary

The Energy Networks Association (ENA) represents all of the UK network operators. Several projects have been initiated by the ENA R&D Working Group and have been funded through the IFI.

Nominated Contact Email Address(es)

innovation@ukpowernetworks.co.uk

Problem Being Solved

Method(s)

Scope

Objective(s)

Multiple projects have been undertaken and completed in previous years, those reported below are ongoing.

Harmonic Impedance Modelling

A final report has been produced and is currently under review. The outputs will be disseminated once it has been approved.

Earthing Project – HV/LV Earthing Transfer

A MS Excel based calculation tool has been developed for analysing the earth fault current distribution for the full range of representative 11kV cables. An extension to the project to include voltages from 33kV up to 400kV has been proposed. This new proposal is to add a representative sample of DNO 33kV, 66kV and 132kV cables into the routines. The 33kV and 66kV circuits and cables have many similarities to those previously modelled and can be added using the methods already developed. The 132kV

circuits are more complex in terms of cable construction, circuit configuration, end resistance value (low) and circuit length (quite long).

Smart Grid Forum Workstream 3 Phase 1, 2 & 3

Phase 2 has developed a technical model and cost benefit analysis network investment tool for a range of typical network types from EHV to LV. The model can be run against synthetic networks at each voltage level under a range of low carbon uptake scenarios. As of March 2013 phase 2 is completed and can now be used for ED1 Business Plans. Work is currently commencing on WS3 Phase 3.

DC Injection

The objectives have been defined and the project is currently progressing through its early stages.

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