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NIA Project Registration and PEA Document

Date of Submission

Jan 2014

Project Reference Number

NIA_NGET0133

Project Registration

Project Title

Identifying Opportunities and Developments in Electric and Magnetic Fields Research

Project Reference Number

NIA_NGET0133

Project Licensee(s)

National Grid Electricity Transmission

Project Start

April 2013

Project Duration

3 years and 1 month

Nominated Project Contact(s)

Hayley Tripp

Project Budget

£158,100.00

Summary

This project will identify, record and review emerging EMF scientific research in the public domain to support National Grid communication with the general public. Knowledge of the latest global developments in EMF research will help identify and facilitate opportunities for EMF research and avoid unnecessary duplication of research effort both within the UK and internationally. The MORI poll has been designed to test the public view of EMF with as little bias as possible. The study generates results which are used to evaluate the current public perception of EMF and identifying any evolving concerns that need to be addressed. Furthermore the results of this project as a whole assist highlighting best practice techniques of communicating with the general public about EMF when constructing new electricity network facilities.

This work encompasses the early stages of identifying further research needs and ways of meeting them, but projects that are progressed as a result of the findings of this work will be registered separately.

Nominated Contact Email Address(es)

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Problem Being Solved

National Grid recognises that there is uncertainty in the scientific evidence relating to Electric and Magnetic Fields (EMFs). There is ongoing scientific research and studies into possible health effects and exposure guidelines for EMFs. An extensive number of reports relating to EMF are released into the public domain every year which provide scientific evidence based on different experiments and tests and these issues are discussed by scientific experts at conferences etc.

National Grid needs to assess and catalogue all publications relating to EMF and engage in the evolving thinking among relevant experts to understand the latest developments and emerging issues relating to the subject. This will enable National Grid to remain up to date with and adopt sound evidence-based best practice in respect of EMFs, and assist in communicating with the general public and identifying areas of research that require further analysis and validation. A complementary strand of research is through assessing

public opinion to generate understanding of the general perception relating to EMF and to identify any emerging issues which stakeholders require to be addressed.

Method(s)

Research

Resource Strategies Inc. facilitates a detailed breakdown of all EMF publications released into the public domain and produces a research summary of each key publication's research background, method and results to National Grid. This is supplemented by attendance at key meetings and conferences and dialogue with selected experts, and by facilitating a specific UK research coordination group through an independent Chair (Dr Ian Torrance)..This provides National Grid with up-to-date awareness and information which can be catalogued and used to respond to the general public when consulting on new infrastructure or via National Grid's EMF helpline.

Up to date knowledge of findings from EMF research from around the world enables National Grid to highlight and prioritise areas of EMF scientific research which require validation through replication of the conditions represented within the study.

In addition the MORI poll investigates current public perception of EMF every two years through surveying approximately 2000 adults on the current health issues within the United Kingdom. National Grid work with Ipsos Mori to indicate the information needed to establish a genuine extent of awareness and concern without bias on the subject of Electric and Magnetic Fields.

Scope

This project will identify, record and review emerging EMF scientific research in the public domain to support National Grid communication with the general public. Knowledge of the latest global developments in EMF research will help identify and facilitate opportunities for EMF research and avoid unnecessary duplication of research effort both within the UK and internationally. The MORI poll has been designed to test the public view of EMF with as little bias as possible. The study generates results which are used to evaluate the current public perception of EMF and identifying any evolving concerns that need to be addressed. Furthermore the results of this project as a whole assist highlighting best practice techniques of communicating with the general public about EMF when constructing new electricity network facilities.

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Objective(s)

The key objectives of the project are to:

- Maintain an up-to-date library of key EMF research through a research summary of all relevant scientific publications in the public domain.
- Develop an up-to-date awareness of evolving issues and findings relating to EMF from worldwide scientific sources to support communication with the general public.
- Develop and evaluate the current public perception relating to EMF Identify any new or evolving public concerns relating to EMF and feeding directly into the portfolio of EMF research projects currently being undertaken.
- Identify research opportunities to help validate EMF scientific analysis and findings written in released publications.

Consumer Vulnerability Impact Assessment (RIIO-2 Projects Only)

n/a

Success Criteria

The key success criteria of the project will include:

- An up to date archive of summarised reports of the all key published EMF publications.
- Identification of any EMF research that , from a GB perspective, require further work.
- Research of public opinion relating to EMFs through completion of the MORI poll.
- Analysis and evaluation of results from the MORI poll and investigate and address any perception risks identified.

Project Partners and External Funding

n/a

Potential for New Learning

n/a

Scale of Project

The project is based on desk-top analysis and archiving of EMF research from the worldwide scientific community and reviewing public survey results.

Technology Readiness at Start

TRL2 Invention and Research

Technology Readiness at End

TRL3 Proof of Concept

Geographical Area

This project draws upon research undertaken globally.

Revenue Allowed for the RIIO Settlement

None.

Indicative Total NIA Project Expenditure

£158,100

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)

The analysis of EMF publications provided by this project eliminates the need to comprehensively purchase all the reports and the extensive time required to review and assess the scientific analysis and findings of all the publications.

Without any insight of emerging scientific research into EMFs from this assessment there will be lack of influence, focus and guidance on any EMF research. This could result in unnecessary duplication of EMF research and an increase in research costs. This increase in cost could be saved by using the evidence generated from this project.

The MORI poll provides valuable insight into the public perception of EMFs and any evolving concern and consideration. This evidence enables National Grid to focus on relevant EMF research that is required to address public concern. The lack of the focus facilitated by the poll could result in greater costs to customers as a greater level of research would be required.

Please provide a calculation of the expected benefits the Solution

Not required for research projects.

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

The breakdown of research and survey results are available and replicable to all GB Electricity Network Licensees.

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

The cost of disseminating the learning from this project is included in the scope of this project. There are no other roll-out costs.

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

All network licensees face the same issues of health and public concern relating to electric and magnetic fields and therefore learning that is generated will be useable by them in the same way as by National Grid as the work will be published in the peer-reviewed literature. All the results and information generated from the MORI poll will be available to view by all Network Licensees and other parties at the National Grid website link:- <http://www.emfs.info/Related+Issues/opinion/MORI.htm>

All information following these projects will be disseminated through the ENA EMF Strategy Committee, as well as the National Grid Innovation Strategy website, the ENA website and at the annual NIA conference.

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