Scottish and Southern Energy Power Distribution

Date of Submission

July 2016

Network Innovation Allowance Progress Report

Notes on Completion: Please refer to the appropriate NIA Governance Document to assist in the completion of this form.

Network Licensees must publish the required Project Progress information on the Smarter Networks Portal by 31st July 2014 and each year thereafter. The Network Licensee(s) must publish Project Progress information for each NIA Project that has developed new learning in the preceding relevant year.

Project Progress

Project Title	Project Reference
Management of plug-in vehicle uptake on distribution networks	NIA_SSEPD_0026

Project Licensee(s)	Project Start Date	Project Duration
Electricity North West Limited, Northern Powergrid, Scottish Hydro Electric Power Distribution, Scottish Power Energy Networks, Southern Electric Power Distribution, UK Power Networks, Western Power Distribution	Mar 2016	22 Months

Nominated Project Contact(s)

David MacLeman

Scope

This project will seek to inform an ENA Engineering Recommendation (or equivalent) for the connection, charging and control of new, large, PIV load to domestic properties. The focus of this project is on the collaborative approach required to achieve consensus on a solution that can be used to facilitate the roll out of controlled PIV charging. In doing so, it will enable significantly larger numbers of PIV charging on today's local electricity distribution networks, with sizeable reduction in reinforcement costs and customer bills/disruption.
The practical output will be a functional specification to describe the system, providing vendors with the information needed to build a trial system. Note that a detailed specification to allow full interoperability between vendors would be produced as a next step once the solution was successfully trialled and therefore lies outside the scope of this project. The output(s) will be achieved through:
? Desk-based research into existing national and international Protocols and Standards in the PIV space: specifically charging types and charging protocols either in development, in trial, or live. To investigate what is available, or in development today, with a view to establishing a preferred approach for a GB wide adoption.
? Dialogue with PIV manufacturers and charging point manufacturers to develop a roadmap of the likely vehicle charging requirements for different types of PIV (ideally 2015-2030+), including size (kW), battery capacity (kWh), likely charging location, etc.
? Develop an outline 'standard' for the connection and control of PIVs on distribution networks, together with options for deployment (e.g. Engineering Recommendation, Code of Practice, incentive mechanism, etc.)
? Test the outline 'standard' for the connection and control of PIVs on distribution networks with a broad audience, e.g. automotive community (LowCVP, OLEV, DfT, TfL etc.), Ofgem, ENA, IET and other stakeholders to be agreed, via consultation under the auspice of the Automotive-Utilities Working Group / other as identified. This will determine (a) the appropriateness of the outline standard, and (b) how the 'standard' should be deployed.
? Develop a communications strategy for enabling deployment. Customer Engagement Plan and Data Protection Strategy to be produced in support.
? Submission of material to the ENA, with endorsement by Automotive-Utilities Working Group to evidence industry and cross-sector support.

? Development of policy documents to validate the learning and facilitate embedding practices into the DNO for two use cases: restoration post fault / planned investment and management.
Completion of the foregoing tasks will enable the creation of an endorsed common solution for control of electric vehicle charging infrastructure giving a sizeable benefit to the DNOs and their customers.

Objective(s)

The principal objective of this project is to agree content to inform an Engineering Recommendation (or equivalent) with a number of influential stakeholders. Once agreed, the content can be passed to the ENA to endorse the agreed approach of managing PIV uptake on electricity distribution networks. The secondary objective will be to agree on the message and approach for communicating with the PIV buyer, the media and other key stakeholders.

Success Criteria

The success criteria is defined as:
1. Industry accepted solution for managing PIV uptake on distribution networks that will avoid significant infrastructure costs or disruption
2. Industry accepted customer messaging strategy and recommendations for implementation

Performance Compared to the Original Project Aims, Objectives and Success Criteria

Objective 1: The principal objective of this project is to agree content to inform an Engineering Recommendation (or equivalent) with a number of influential stakeholders. Once agreed, the content can be passed to the ENA to endorse the agreed approach of managing PIV uptake on electricity distribution networks.

The project has only recently commenced and the initial two background pieces of work detailed below have been completed.

• A technical review paper of publicly available information on UK and international PIV charging technologies, trials and communication methods is presented.

• Stakeholders from 24 organisations including governmental bodies, automotive OEMs and their supply chains, charger installers and charger OEMs were interviewed. Their responses will be collated to provide a clear picture of the future needs of plug-in vehicle charging when considering connection to distribution networks.

Following on from the foregoing background research the follow on pieces of work will form the main project outputs:

• Develop a set of technical design options for the connection and control of PIVs on distribution networks, together with options for deployment (e.g. Engineering Recommendation, national standard, voluntary standard, incentive mechanism, etc.)
• Test the above technical options with a broad audience, e.g. automotive community (LowCVP, OLEV, DfT, TfL etc.), Ofgem, ENA, IET and other stakeholders to be agreed, via consultation under the auspice of the Automotive-Utilities Working Group / other as identified. This will determine (a) the appropriateness of each option to ultimately lead to the definition of a single functional specification, and (b) how the Solution should be deployed.
• Develop a messaging strategy for enabling deployment.
• Submission of material to the ENA, with endorsement by Automotive-Utilities Working Group to evidence industry and cross-sector support.
• Development of policy documents to validate the learning and facilitate embedding practices into the DNO for two use cases: restoration post fault / planned investment and management.

Objective 2: The secondary objective will be to agree on the message and approach for communicating with the PIV buyer, the media and other key stakeholders.

• To agree on the message and approach for communicating with the PIV buyer, the media and other key stakeholders

Success Criteria:

As yet there is no clear indication as to the success or otherwise of the project.

Required Modifications to the Planned Approach During the Course of the Project

There has not been any modification needed at this stage

Lessons Learnt for Future Projects

At this early stage there has been no lessons learned produced.