Date of Submission

May 2021

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

Smart Hammer

Project Reference

NIA_SSEN_0044

Funding Licensee(s)

Scottish Hydro Electric Power Distribution, Southern Electric Power Distribution

Project Start Date

February 2020

Project Duration

1 year and 8 months

Nominated Project Contact(s)

SSEN NIA Programme Delivery Manager – Colin Mathieson

Scope

STAGE 1 - SMART HAMMER DEVELOPMENT - X-Models

X Model Development
Define Hammer Evaluation Test strategy
Evaluate Accelerometer sensors
Make Sensor Selection

STAGE 2 - SMART HAMMER DEVELOPMENT - A-Models
A Model Development
Create automated testing environment
Determine Utilization Parameters
Develop Data extraction
Field Trial Smart Hammer to Identify the Sensor Selection.
Create Draft Training Material

STAGE 3 - SMART HAMMER DEVELOPMENT- B-Models
B Model Development. Refine & Build Prototype Hammer with finalised Sensor Selection
SSE Evaluate IT System for Maximo Integration
Refined Automated Swing Test for operational improvement
Prototype Field Trials & Evaluation

STAGE 4 - SMART HAMMER DEVELOPMENT - Pre- Pod-Models
Build Pre-Production of finalized Hammer
I.T – Maximo integration
Data Analytics Trial
Pre-Prod Models Field Test & Evaluation
Policy & Procedure to approve network testing.
Create Training Material

STAGE 5 - Field Trials
Undertake Field Trials
Capture Trial Data
Field Trial Evaluation
Compare Baseline & Field Trials
Recommendations for BAU

STAGE 6 - Closure
Finalize Policies & Procedures
Finalize Training Material

Objectives(s)

By the end of the project

1.   To have established the technical and commercial viability of using a Smart Hammer with accurate and repeatable results.

2.   Conduct consistent and reliable initial wood pole inspections as an alternative to the traditional hammer test method.

3.   The ability to capture pole data and integrate with asset databases

4.   To have disseminated the learning from the project through annual or exceptional events for the benefit of GB customers.

Success Criteria

1. Early identification of equipment not to take through development phases and field trials.

2. Ability to test poles within asset health scoring matrix.

3. Ability to detect pole replacements without the need for secondary invasive techniques.

4. Ability to notify systems that secondary testing is required with more advanced technical equipment.

5. Low cost Smart Hammer which is affordable to issue to all overhead line assessors and linesmen.

6. Efficient consistent pole test scores no matter who uses the hammer.

7. Ability to capture the information from the Smart Hammer in the asset database via a Smart Phone application.

8. Ability to capture granular detail of pole condition to enable desktop assessments for efficient planning.

9. Ability to demonstrate wood pole asset health with accuracy – Data assurance and improve accuracies in reporting.
10. Opportunity to improve and make internal processes more efficient adopting Smart Hammer as a front-line tool and a create a response matrix.

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

This project is presently in the early stages with no noteworthy material to present.

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

N/A

Lessons Learnt for Future Projects

This project is presently in the early stages with no noteworthy learning to present.

The Outcomes of the Project

This project is presently in the early stages.

Data Access

See Network Innovation Competition (NIC) and Network Innovation Allowance (NIA) Data Sharing Procedure at
https://www.ssen.co.uk/InnovationLibrary/Distribution/

Foreground IPR

N/A