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**
Fault Passage Indicators for Sensitive Earth Faults	NIA_SSEPD_0023

Project Licensee(s)	**Project Start Date**	**Project Duration**
Scottish Hydro Electric Power Distribution, Southern Electric Power Distribution	Dec 2015	18 Months

Nominated Project Contact(s)

David MacLeman

Scope

To establish the magnitude of reduction in Customer Minutes Lost (CMLs) achievable by locating SEF faults with a revised FPI supplied by Bowden Brothers and modified to be sensitive to currents as low as 4A through tests at PNDC, field trials and a post-trial evaluation.

Objective(s)

1. Determine, from testing, that the revised FPIs successfully meet the required standard
2. Train operational staff in the correct use of the revised FPIs
3. Perform a field trial with trained operational staff
4. Monitor and evaluate the reduction in customer hours lost per Customer affected by an SEF fault in the trial area when compared to previous years.

Success Criteria

This project will be successful if we are able to determine the ability of the revised FPI to reduce CMLs due to SEF faults.

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

1. Determine, from testing, that the revised FPIs successfully meet the required standard
This work was carried out the University of Strathclyde's Power Network Demonstration Centre (PNDC) in January 2016. The new fault passage indicators (FPIs) worked very well picking up all low level sensitive earth fault (SEF) faults applied. They were also tested to ensure that they did not flag for typical network loading conditions such as both balanced and unbalanced loads. The results were very encouraging and we have moved on to the next stages of the project. The objective has been fully met.

2. Train operational staff in the correct use of the revised FPIs
Training of operational staff, within the Highland Region of SHEPD was carried out in April 2016. Trained operational staff members

are now confident with the use of the new SEF FPIs and feedback from the training sessions was that the new SEF FPIs are considered as potentially useful tools to locate faults which were difficult to find in the past. The objective has been fully met.

3. Perform a field trial with trained operational staff
This has started within Highland Region and is ongoing. The objective is partially met.

4. Monitor and evaluate the reduction in customer hours lost per Customer affected by a SEF fault in the trial area when compared to previous years
No work has been done in this area. The objective is yet to be met.

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

No changes are envisaged to the planned approach during the course of the project.

Lessons Learnt for Future Projects

No lessons leant yet but the monitoring and evaluation of the method will yield useful learning for future projects