



The future



NIA Progress Report

NIA_ENWL015
Tap Changer Monitoring

22 July 2016



VERSION HISTORY

Version	Date	Author	Status	Comments
v.1.0	20/07/2016	P Marshall Project manager	Final	Final version following internal review and comment

REVIEW

Name	Role	Date
A Howard	Programme Manager	21/07/2016
D Randles	Network Performance and Innovation Manager	21/07/2016
P Turner	Future Networks Delivery Manager	21/07/2016

APPROVAL

Name	Role	Date
Steve Cox	Head of Network Engineering	22/07/2016

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1 PROJECT BASICS

Project Title	Tap Changer Monitoring
Project Reference	NIA_ENWL015
Funding Licensee(s)	Electricity North West Limited
Project Start Date	February 2016
Project Duration	4 years
Nominated Project Contact(s)	Paul Marshall (paul.marshall@enwl.co.uk)

2 SCOPE

Previous research carried out under an IFI project into tap changer monitoring determined that monitoring is required. The technique used had limitations therefore there is a need to develop a more robust technique/system.

Electricity North West will work closely with Camlin Power to develop and productionise a retrofitable tap changer monitoring system to accurately monitor the tap changer performance, in turn determining the intervention/triggers points.

For this project it is proposed to install this system on 10 x 132kV tap changers and 30 x 33kV tap changers and understand the tap changer performance over a 24-month period to allow seasonal changes to be taken into account.

The project will allow Electricity North West to develop its understanding of the effects of tap changer failure modes and maintenance requirements and to identify the optimum window for monitoring in the life cycle of tap changers.

3 OBJECTIVES

This project is split into four distinct phases:

- Phase 1 is to develop a retrofitable tap changer monitoring system. This phase to be completed by December 2016
- Phase 2 is the onsite installation of 40 monitoring systems. This phase to be completed by August 2017
- Phase 3 is the continuous data analysis and visualisation of the tap changer condition. This phase to be completed by August 2019
- Phase 4 is the implementation of identified trigger points into company policy and procedures. This phase to be completed by January 2020

4 SUCCESS CRITERIA

- Production and trial of a condition monitor for tap changers.

5 PERFORMANCE COMPARED TO THE ORIGINAL PROJECT AIMS, OBJECTIVES AND SUCCESS CRITERIA

This project is on track with its original aims, objectives and criteria.

Work has commenced with Electricity North West's key partners and the development of the monitoring system is at the scope and solution stage.

A detailed delivery plan is under development to meet the project requirements.

6 REQUIRED MODIFICATIONS TO THE PLANNED APPROACH DURING THE COURSE OF THE PROJECT

There have been no changes to the planned approach.

7 LESSONS LEARNT FOR FUTURE PROJECTS

The project is in its early stages and at this point there are no lessons to share. This will change as the project progresses.

8 THE OUTCOMES OF THE PROJECT

Not applicable.

9 PLANNED IMPLEMENTATION

Not applicable.

10 OTHER COMMENTS

Not applicable.