NIA Project Progress Information

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

The Network Licensee must publish the required Project Progress Information on the Learning Portal by 31 July each year. The Network Licensee must publish Project Progress Information for each NIA Project that has developed new learning in the preceding Relevant Year on the Learning Portal.

This publication should provide sufficient information for third parties to understand what has been learnt from the Project and should be sufficient to allow other Network Licensees to replicate the Project and minimise the likelihood that other Network Licensees will unnecessarily duplicate the Project using their NIA in future. If the NIA Project generates IPR that Ofgem has agreed at Registration do not need to be shared, the Project Progress Information must provide sufficient information for other Network Licensees to determine whether the IPR would be of value.

Project Progress

Project Title	Project Reference
Improved Statistical Ratings for Distribution Overhead Lines	NIA_WPD_008

Project Licensee(s)

Electricity North West Limited, Northern Powergrid, Scottish and Southern Energy Power Distribution, Scottish Power Energy Networks, UK Power Networks, Western Power Distribution

Nominated Project Contact(s)

Paul Jewell - Policy Manager; Sven Hoffman - Company Overhead Line Engineer

Scope (as per registration)

This project will use the test rig facility to gather 2 years of conductor and weather data. This data will be analysed to validate and update overhead line ratings, update existing tools and methodologies, and produce a software tool that will enable GB DNOs to further optimise regional or line specific ratings.

Objective(s) (as per registration)

- To monitor the weather conditions and co-incident temperatures of various conductors at various current levels in order to provide a new dataset for the assessment of the weather risk element of probabilistic ratings and to derive a methodology for quantifying this risk, in combination with load risks, in order to calculate line ratings.

- To update ENA ER P27 and ENA ACE 104.

- To validate the updated CIGRÉ methodology for calculating conductor temperature from load and weather data, allowing the possibility of future "desk top" re-runs of the project to cover different locations and time periods.

- To update existing software tools, and to provide a new software tool to enable more comprehensive (regional or line specific) rating assessments to be made.

- To engage with the Met Office to enable rapid provision of appropriate weather data sets.

Success Criteria (as per registration)

- Sufficient data collection to build a robust model of overhead line ratings.

- Analysis of that data to produce a model that enables more robust rating of overhead lines than the current model.

- A new software tool to enable more comprehensive (regional or line specific) rating assessments to be made.

- A robust, accurately informed revision of ENA ACE 104 and ENA ER P27.

Performance compared to the original Project aims, objectives and success criteria
Details of how the Project is investigating/solving the issue described in the NIA Project Registration Pro-forma. Details of how the Project is performing/performed relative to its aims, objectives and success criteria.

The project is currently focused on the data gathering exercise. In parallel, EA Technology have started to build the software required to analyse the data.

After an initial delay to the start of the project, mainly due to resolving issues with obtaining purchase orders from the multiple project funders, the project started well. The test rig operated as expected and was providing reliable and near continuous data. This was, however, interrupted early in June when a component of the power supply equipment failed catastrophically. The cause is still under investigation, and work continues to repair the test rig and to resume operation. Total down time is estimated as 4 to 6 weeks.

Required modifications to the planned approach during the course of the Project
The Network Licensee should state any changes to its planned methodology and describe why the planned approach proved to be inappropriate.

None. The plan to allow a total of two years for data collection was in part to mitigate the risk of lengthy down time of the test rig, such that at least 12 months of (near) continuous data would be available for analysis.

Lessons learnt for future projects
Recommendations on how the learning from the Project could be exploited further. This may include recommendations of what form of trialling will be required to move the Method to the next TRL.
The Network Licensee should also state if the Project discovered significant problems with the trialled Methods.
The Network Licensee should comment on the likelihood that the Method will be deployed on a large scale in future.
The Network Licensee should discuss the effectiveness of any Research, Development or Demonstration undertaken.

Once the cause of the test rig failure has been established, appropriate action will be taken, and detailed in a future monthly report.