

FACTS

RESEARCH AREA	Network Reliability & Availability
START DATE - END DATE	May 2017 - Nov 2019
FUNDING MECHANISM	Network Innovation Allowance
ESTIMATED EXPENDITURE	£420,000
PROJECTS PARTNERS	Hyperdrive Innovation Ltd
MORE ON	http://www.smarternetworks.org/project/nia_npg_016

CONTEXT

Generators are frequently used to support small parts of the network during repairs. These can be noisy and disturb customers, especially if they have to be used at night. Additionally generators tend to be trailer mounted so require non-standard arrangements for transport not compatible with the full fleet of vehicles used by operational engineers.

APPROACH

The output of this project will be 2 or 3 prototype battery-inverter generator units of 40kVA output installed in fleet (or very similar) electric vehicles that can be used for support during network faults typically affecting between 1 and 7 domestic customers on single or three phase networks. Ideally it will be suitable for single and looped premises and end of LV network faults. The system will be fitted with an inverter making it suitable for single or three phase operation and protection panels.

It is intended that this project will demonstrate the efficacy of this approach for all generator applications with the target that 50% of the current generator fleet could eventually be replaced with this technology.

EXPECTED OUTCOMES

The project has several objectives:

Determine whether a 40kVA hybrid generator system can be safely installed in a standard sized fleet vehicle. Develop and fully test communications, tracking and control systems ensuring compatibility with our current, or modified, operational approach. Determine operational characteristics of such a vehicle, specifically:

- Assess carbon footprint, fuel usage, support time, recharge motor utilisation, noise pollution etc, etc.
- Assess maintenance regime, battery life etc.

Determine the operating economics of such a vehicle, across the full asset life cycle, and make comparisons with alternative approaches. Assess and make recommendations for broader operational adoption.

LONG TERM PRIORITIES



Network Environmental Footprint



Network Reliability & Availability



Network Management & Flexibility



Demand-side Response



Network Planning & Design



Communication & Engagement



IT-enabled Process Improvements



Social Responsibility