

## **DESIGNING INTENDED ISLAND OPERATION IN DISTRIBUTION NETWORKS**

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### **ABSTRACT**

At present, island operation is seen as a one of the solutions to rise to the challenge of tightening demands on reliable and effective power supply. Due to this fact, the development of designing island operation is needed. This paper discusses designing island operation in a distribution network. The focus of this paper is to justify the reasons for the use of island operation in a distribution network and especially why pre-planning has such an important role. The key factors creating the context of islanding are also considered.

Intended island operation is executed by means of distributed generation units (DG) located in the medium voltage (MV) or the low voltage (LV) side of the network. Selection of the connection point of DG and outage cost modelling for islanding potentiality analysis are also examined. In addition, case studies about islanding potentiality and short-circuit protection issues in a test network are analyzed.

The discussions validate the usability of islanding and, on the other hand, the need for designing to ensure proper network operation. In addition, further discussions about islanding are needed in various forums.