Abstract

This paper presents a new voltage stability index for radial distribution networks. The Chu-Beasley genetic algorithm was implemented to solve the feeder reconfiguration problem in which the new index is used as the objective function. Two test systems were used. The first system has 33 nodes and 37 branches, and the second system has 136 nodes and 156 branches. The results show that the proposed index is reliable and easy to implement. It provides satisfactory results when the index is compared with two stability indices proposed in the literature.

Keywords

Voltage collapse, voltage stability index, feeder reconfiguration.