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IEEE Guide for Automatic Reclosing of Circuit Breakers for AC Distribution and Transmission Lines

IEEE Power & Energy Society

Sponsored by the
Power System Relaying Committee

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Abstract: Current reclosing practices for transmission and distribution lines are described. Application considerations and coordination practices of reclosing are also discussed.
Keywords: automatic operation, circuit breaker, distribution, IEEE C37.104, reclosing, transmission

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Introduction

This introduction is not part of IEEE Std C37.104-2012, IEEE Guide for Automatic Reclosing of Circuit Breakers for AC Distribution and Transmission Lines.

The art and science of protective relaying for the automatic reclosing of circuit breakers associated with distribution and transmission lines following the clearing of a fault have evolved over many years. This guide is an effort to compile information on the application considerations associated with this practice. The guide presents generally accepted practices for autoreclosing. Its purpose is to describe the methods and considerations associated with situations in which it is desirable to reclose automatically. It is intended for engineers who have a basic knowledge of power system protection. This is an application guide and does not cover all of the requirements for autoreclosing for every situation or protection scheme. Additional reading material is suggested so that the reader can evaluate the application of autoreclosing for the individual situation.

Contents

IEEE Guide for Automatic Reclosing of Circuit Breakers for AC Distribution and Transmission Lines

1. Overview

1.1 Scope

This guide documents present practices regarding the application of automatic reclosing control to line circuit breakers. Both transmission and distribution line practices are addressed. The guide is not intended to provide guidance for the operation of the bulk power system in matters of reclosing, such as enabling or disabling automatic reclosing or providing for manual closures following automatic tripping of an element.

1.2 Purpose

The guide provides benefits of automatic reclosing and provides application considerations for proper coordination with other system controls (e.g., autosectionalizing, fast-valving, etc). The guide includes a section on emerging technologies (e.g., IEC 61850) and their application to automatic reclosing. Supplementary information is comprised of annexes containing a bibliography of technical literature concerning reclosing as well as a brief history of the use of automatic reclosing.