

# Relay Protection Status of Intelligent Substations



## Overview

The new generation of intelligent substations has achieved online monitoring functions for secondary equipment, making some state variables of relay protection equipment become observable indicators. Liu D, Wu K, Guo Z, Cui Y, Liu W and Zhang J (2024), Strategy for evaluating the status of relay protection equipment for the new generation of intelligent substations. Taking the 500 kVA intelligent substation in Shenzhen. This study introduces a new diagnostic framework that combines improved particle swarm optimization, K-means clustering algorithms, support vector machine (SVM), and learning vector quantization neural networks to provide a comprehensive fault diagnosis and pre-diction model for relay protection. Based on this, this paper studies and analyzes the stability of RP in Intelligent Substation (IS) and discusses the principle and structural characteristics of IS, the design principle of RP, and the basic scheme of RP configuration in IS; according to the stability judgment basis of RP, the.



## Article Content

(PDF) State Inference and Evaluation Technology of

This article studies the comprehensive state evaluation and action simulation deduction technology of intelligent substation relay protection

A state evaluation and fault diagnosis strategy for substation relay ...

The article presents an exhaustive compilation of 220 sets of sample data for the fault categories that are relevant to the relay protection system devices of substations in the Guizhou

A state evaluation and fault diagnosis strategy for substation relay ...

Ensuring the operational reliability of substation relay protection systems through rapid defect diagnosis and state assessment is crucial for maintaining power system stability. This study

Research on Real-time Reliability of Relay Protection System in ...

Strengthening research on the relay protection system of intelligent substations and improving the reliability of the system are urgent problems that need to be solved.

Relay Protection Stability of Intelligent Substation

The intelligence of substation has become a trend. It is also very important that Relay Protection (RP) can ensure the safe and stable operation of Smart Substation equipment.

Fault diagnosis of intelligent substation relay protection ...

In the context of global energy transformation, the construction of smart grids is becoming a novel vogue in the evolution of power systems. As the core node of the smart grid, the

Research on Remote Maintenance Technology of Relay Protection in

Abstract. According to the work content of relay protection outage maintenance, a remote maintenance scheme covering all work items of relay protection routine maintenance is proposed; Combined with

Strategy for evaluating the status of relay protection equipment for ...

To overcome the shortcomings mentioned above, this paper proposes a relay protection equipment status evaluation strategy for the new generation of intelligent sub-stations, from the...

Strategy for evaluating the status of relay protection equipment for ...

With the rapid development of power grid, the structure and technology of the secondary system in substations are also constantly innovating. The new generation of intelligent substations has

Fault diagnosis of intelligent substation relay protection ...

This study focuses on the fault diagnosis of an intelligent substation relay protection system based on Transformer architecture and migration training model.

Frontiers | Strategy for evaluating the status of relay protection ...

The new generation of intelligent substations has achieved online monitoring functions for secondary equipment, making some state variables of relay protection equipment become

(PDF) A New Method to Evaluate the Reliability of the

Strengthening research on the relay protection system of intelligent substations and improving the reliability of the system are urgent problems that

A state evaluation and fault diagnosis strategy for

The intelligent substation is equipped with many relay protection systems, each with unique hardware features that have a substantial influence on

Relay Protection Stability of Intelligent Substation

The RP system can collect and judge the fault data in real time according to the fault status of the substation. There are also differences in the amount of faults used by different protection objects to

Relay protection and safety technology for intelligent substation ...

To achieve information sharing and interoperability among intelligent electrical equipment in intelligent substations, the author proposes research on relay protection and security technology

A state evaluation and fault diagnosis strategy for substation relay ...

Practical research on state assessment of relay protection device in intelligent substation Grid fault diagnosis method taking into account relay protection device reliability assessment SVM

Modeling and Simulation of Intelligent Substation Relay Protection ...

The power information system and the physical system are independent event systems and schedule systems, and their forms are completely different. At present, there is no simulation software based

Strategy for evaluating the status of relay protection equipment for ...

Article "Strategy for evaluating the status of relay protection equipment for the new generation of intelligent substations" Detailed information of the J-GLOBAL is an information service managed by

Fuzzy Assessment of Hierarchical State of Relay Protection

For the state evaluation of relay protection equipment in intelligent substations, the uncertainty of state information indicators can lead to the evaluation results not accurately reflecting the operating status

Relay Protection Stability of Intelligent Substation

Xiuzhi Li and Guihua Qiu Abstract With the increase of attention to smart grid, the construction of Smart Substation has attracted more and more attention. The intelligence of substation has become a

A state evaluation and fault diagnosis strategy for

Abstract and Figures Ensuring the operational reliability of substation relay protection systems through rapid defect diagnosis and state assessment is

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