

Application of Phasor Measurement System in Taiwan

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Abstract

Taipower has installed a real-time phasor measurement system in the electrical power system. The system includes 9 phasor measurement units and two central monitoring stations. The basic functions of the system included: real-time monitoring of the power system phase angle, record and analysis of system dynamic behavior, record and analysis of system transient and fault event, and record and analysis of system steady-state phasor.

This paper describes the applications of the wide area phasor measurement system in Taiwan. It describes the configuration, and hardware architecture of the wide area phasor measurement system. Besides the basic functions, this paper also describes the advanced applications of this wide area phasor measurement system, such as transmission line fault location, real-time damping ratio calculation, and low-frequency oscillation analysis.

Keywords: Phasor measurement unit (PMU), phase angle, Damping ratio, Low-frequency oscillation