

ABSTRACT

A Feasibility Study For The Application Of Out-of-Step Relaying On The JPS Transmission System

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The effects that severe oscillations have on power systems continue to be of great concern to engineers. In many instances, power swings have led to unwarranted system collapse propagated by the haphazard tripping of some critical transmission lines by their associated protective relays.

The occurrence and effects of these conditions were investigated on the JPS transmission system. An informed assessment was made of the necessity of applying out-of-step protection on the JPS transmission system as an applicable solution in mitigating against some of the problems experienced with power swings. Recommendations were made in the areas of protection reliability and speed of fault clearing as options to consider before the application of any out-of-step protection scheme.

Keywords: Out-of-step protection, power swings, system stability, distance relaying, overcurrent relaying.