

**ANALYSIS OF OVERCURRENT RELAY FOR TRANSMISSION LINE
PROTECTION**

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MOHD NURFAZAMRUDDIN BIN ROSLI
FACULTY OF ELECTRICAL ENGINEERING
UNIVERSITY TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR
MALAYSIA

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ABSTRACT

Overcurrent relays are used for protection of lines, transformer, generators, and motors. Generators and load are connected together through transmission lines, which transport electric power from the place where it is generated to the place where it is used. By doing the analysis and testing, overcurrent relay may protect the power system and deal with any abnormality of a system which involves the electrical failure of the equipment. The role of protective relays in a power system is to detect systems abnormalities and to execute appropriate commands to isolate swiftly at the faulty component from healthy system. The analyze overcurrent relay protection was carried out at Pencawang Masuk Utama (PMU) SEGARI (SGRI) and SUNGAI SIPUT (SSPT).

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The earliest protective schemes evolved around the excessive current resulting from a fault, which is the basis of overcurrent protection schemes. For transmission line protection in interconnected systems, it is necessary to provide the desired selectivity such that relay operation results in the least service interruption while isolating the fault [1]. These relays operate based on the measure expected current from the monitored Time Multiplier Setting (TMS) and current setting.

The setting of overcurrent relays operating is based on the current flow through the system. Basically, during the fault, the current flow more than the current setting and at certain time, the trip alarm will be activated by the relay. The overcurrent relay is necessary when power system fault not cleared by main protection means that failure of main protection fault clearing system. Overcurrent protection was applied in two parts and the first one is non-directional and the second one is directional. Overcurrent protection, on the other hand, is directed entirely to the clearance of faults, although with the settings usually adopted some measure of overload protection may be obtained [2].

This project focus on the testing and analysis of overcurrent relay to ensure the electrical protective devices is healthy and good condition. The purpose of testing this electrical protective device is to protect the transmission line from faulty. The results will show whether the protective devices is passed or failed to protect the system. Each result must be recorded and kept as a reference for future use. It also can be as evidence when the system has been trip. The testing protective devices were using secondary test equipment known as