## DISTRIBUTION SYSTEM CONTINGENCY USING COLOURED PETRI NETS

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## Abstract

This paper is based on the study of overload contingency in the distribution system using coloured Petri nets approach by optimal feeder switching operation. To prevent further switching operations in a short time period due to the load growth, the daily load profiles of each service section are considered for the switching decision to solve the system contingency. Coloured Petri Nets due to their graphical and mathematical modeling capabilities to concurrent, asynchronous, distributed, parallel, non-deterministic, stochastic and discrete-event systems are considered for the proposed distribution system. To determine the effectiveness of the proposed methodology, a sample distribution system, which serves a mixture of customers, is selected to perform the computer simulation. The designing of the system is done with the help of CPN tool. After this the rules are derived based on which the candidate search is done to switch one load from an overloaded feeder to other feeder having adequate amount of margin. To prevent further switching operations in a short time period due to the load growth, the daily load profiles of each service section are derived and considered for the switching decision to solve the system contingency.