

Contingency Screening Using Risk Factor Considering Transmission Line Outage

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Abstract : Power system security analysis is the most time demanding process due to large number of possible contingencies that need to be analyzed. In a power system, any contingency resulting in security violation such as line overload or low voltage may occur for a number of reasons at any time. To efficiently rank a contingency, both probability and the extent of security violation must be considered so as not to underestimate the risk associated with the contingency. This paper proposed a contingency ranking method that take into account the probabilistic nature of power system and the severity of contingency by using a newly developed method based on risk factor. The proposed technique is implemented on IEEE 24-bus system.

Keywords : line overload, low voltage, probability, risk factor, severity

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