

Evaluation of Reliability Indices Using Monte Carlo Simulation Accounting Time to Switch

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Abstract : This paper presents the evaluation of reliability indices of an electrical distribution system using Monte Carlo simulation technique accounting Time To Switch (TTS) for each section. In this paper, the distribution system has been assumed by accounting random repair time omission. For simplicity, we have assumed the reliability analysis to be based on exponential law. Each segment has a specified rate of failure (λ) and repair time (r) which will give us the mean up time and mean down time of each section in distribution system. After calculating the modified mean up time (MUT) in years, mean down time (MDT) in hours and unavailability (U) in h/year, TTS have been added to the time which the system is not available, i.e. MDT. In this paper, we have assumed the TTS to be a random variable with Log-Normal distribution.

Keywords : distribution system, Monte Carlo simulation, reliability, repair time, time to switch (TTS)

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