

Probabilistic Analysis of a Standby System with Provision of Priority of Repair

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ABSTRACT

The present study deals with a standby system consisting of two compressor units. Initially one unit is operative and the other is standby. For the system to be in operating state only one unit is needed. The operative unit can fail due to various types of failures which can be categorized as- serviceable type, repairable type and replaceable type. In case of any type of failure the priority of service, repair or replacement is given on FCFS basis. Real data on failure and repair rates of such units collected from milk plant, have been used for present study. Mean time to system failure and availability has been computed graphically as well as numerically by using semi-Markov process and regenerative point technique for the present system.

Keywords: Compressor unit, Regenerative point technique, Refrigeration system, semi-Markov process.
