

Profit Analysis of A Two Unit Coldstandby System With Switching of Units and Correlated Failure And Repair of Units

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ABSTRACT

This paper deals with two non-identical unit parallel system model in which one unit is always repairable and the duplicate unit is repairable only finite number of times. Now in the view of previous chapter if the duplicate unit is costly and repair only finite number of times than it must be checked or give rest after some time of working. Authors [1-4] discuss the models in which units are dissimilar.

Keeping the above facts in view we in the present paper analyse a two dissimilar unit cold standby system in which both units are switched their places (as operative and standby modes) after a random amount of time. The random amounts of time for both units are to be decided by the experts from the past data of both types of units, which gives the option to enhance the reliability of the system as a whole. For switching of units after failure we use a device, which have some fixed known probability of failing at a time of switching. It is also assumed that the random variables denoting failure and repair times are correlated having their joint density as bivariate exponential.

Key Words : bivariate exponential, reliability, busy period, availability