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Busy Period Analysis of a Standby System with Various Types of Causes of Failures

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Abstract: *In the present paper the busy period analysis of a two unit standby system has been carried out. The system consist of two compressor units, initially one is operative and other is standby. The units are working as a main component of the refrigeration system present in the milk plant. By the previous data of failure times it has been observed that behind for the failure of the compressor unit there are various types of causes and these can be categorized as-serviceable type, repairable type and replaceable type. If the operative unit fails then the standby unit becomes operative and the repair is done on FCFS basis. For the busy analysis real failure time and repair time data has been collected from a milk plant. Various measures of unit effectiveness such as busy period of repairman for repair only, busy period of repairman for replacement only ,availability and mean time to unit failure has been computed numerically by using semi-Markov process and regenerative point technique.*

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