

COMPARATIVE STUDY OF STANDBY COMPRESSOR SYSTEMS WITH AND WITHOUT PROVISION OF PRIORITY TO FAILED COMPRESSOR UNIT

UPASANA SHARMA¹ & JASWINDER KAUR²

¹Department of Statistics, Punjabi University, Punjab, India

²Department of Statistics, Punjabi University, Punjab, India

ABSTRACT

The present paper is an attempt to compare two standby systems consisting of two compressor units where one compressor is in operative state and other is in standby state at initial stage. In Model 1 priority is given to failed compressor unit whereas in Model 2 there is no concept of priority. Any major failure or annual maintenance brings the operating unit to a complete halt. It has been observed that the unit can fail due to various types of failures which can be categorized as serviceable type, repairable type and replaceable type. For availability analysis of the unit real failure as well as repair time data from a milk plant have been collected and measures of unit effectiveness i.e. availability and mean time to unit failure for both the models has been computed graphically as well as numerically by using semi-Markov process and regenerative point technique.

KEYWORDS: Compressor Unit, Regenerative Point Technique, Refrigeration System, Semi-Markov Process