

신뢰성 기반 정비를 위한 시뮬레이션 시스템 개발

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Abstract

In this paper, a simulation model is presented to predict the availability and the cost of a large series-parallel system. The system is divided into four stages by applying RCM(Reliability Centered maintenance) concept : system, sub-systems, units and failure modes causing unit failure.

It is assumed that the time-to failure for each unit is distributed according to weibull distribution and repair and periodic preventive maintenance are applied to failure modes. The minimal repair, perfect repair and imperfect repair can be included using age reduction factor. After the repair and preventive maintenance, the age of the unit is changed according to age reduction factor.

The availability and the cost which is predicted through the simulation, may be useful to determine the effective maintenance policies.