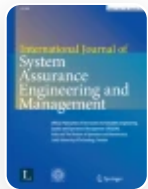


Availability and profit analysis of a feeding system in sugar industry

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Abstract

This paper discusses a feeding system of the sugar industry consisting of six subsystems—unloaders, cane carrier and cutter unit, crushing unit, boiler unit, bagasse carrier unit and turbines. Cane carrier and cutter unit, crushing unit, bagasse carrier unit and boiler unit are working in series. In sub-system ‘unloaders’ one unloader is operative and another is kept as cold standby whereas, in sub-system ‘turbines’ both the turbines work in parallel. The distribution of failure times of sub-systems of feeding system is taken as exponential while the distribution of repair times of sub-systems is considered as arbitrary. The feeding system is analyzed by using supplementary variable technique.