# Hedging Point Policies for Multi State Failure Prone Manufacturing Systems

Article

**Authors**

Carlo Branca and Francesco Martinelli

**Publication Information**

Decision and Control, 2003. Proceedings. 42nd IEEE Conference Volume 3, December 9, 2012, Page 2150-2155

**Abstract**

In this paper we consider a single-product single-machine manufacturing system, with the machine characterized by multiple working modes. A cost is associated both with inventory surplus and demand backlog and the policy which minimizes the overall long-run expected cost, which based on previous work in literature is known to be a multiple hedging point policy, is analyzed. This paper derives a condition on system parameters for the optimality of just-in-time (JIT) policies and investigates the dependence of hedging points on the ratio among inventory surplus and backlog cost parameters. Some numerical examples are included to illustrate the effectiveness of the achieved results.

Link to the article