

ABSTRACT

Maintenance is one part of production processes and maintenance that conducted spends 15% - 70% of production cost. By developing the maintenance scheduling, besides decreasing the cost of the production, it should decrease the production cost. PT. Madubaru is one of the companies that engaged in agro industry field located in special region of Yogyakarta which are producing sugar (PG. Madukismo) and also spiritus (PS. Madukismo). In PT. Madubaru, maintenance scheduling arranged by considering the duration of activity and number of operators or labours, in which the maintenance is occurred after the production period and being run for 5 months. This research took the front factory as the object that run the drilling process of the sugar cane before to the middle factory. The maintenance activity is divided into 4 groups. Each group has the part of machine to be treated and duration with man power that already allocated. The previous maintenance scheduling is never be evaluated its the effectivity based on the cost and man power allocation. Genetic Algorithm (GA) is employed to process the better maintenance scheduling for front factory. After the 6740 iterations, the result shows that maintenance scheduling from GA gave the lower allocation worker and cost than the initial scheduling.

Keyword: Maintenance management, maintenance scheduling, genetic algorithm