

ABSTRACT

PT. Dirgantara Indonesia is an Indonesian aircraft manufacturing company which is a sub-contractor of foreign company such as Boeing, Airbus, Casa, etcetera. There are idle machines and other machines are having jobs and work in processes bottleneck which is found from field observation. This problem makes jobs are late coming to the next process. Moreover, the existing schedule's makespan is more than total processing time, though jobs are done in parallel. Therefore, this research proposes a system of batch scheduling performed using heuristic methods that can reduce the total actual flow time.

The method used is a heuristic method development from research conducted Ras (2002) and Rahmawati (2009, 2011). This method consists of an algorithm determining the size and number of batches are then scheduled backward for the entire order. The study consisted of 12 pieces of orders must be completed within 6 months. Components making up a pair of outboard flap as much as 20 types consists of 26 components that constitute the right outboard flap and left outboard flap. Similar components together in a batch and produced 10 batches for a pair of outboard flap and produced 120 batches for 12 orders consisting of 312 pieces of components. Batch is then scheduled with the goal of minimizing total actual flow time.

Based on the results of data processing, batch scheduling heuristic proposed method has been successfully established with total actual flow time 2279.70 hours. Scheduling existing which has been generated by the company has total actual flow time of 6385.97 hours, which means the proposed scheduling can reduce the total actual flow time of 4106.27 hours or 64.3%.

Keywords : Batch scheduling, heuristic method, total actual flow time.