ABSTRACT

Scheduling is important in production system. Various problems might appear due to in appropriate scheduling, such as production completion time is too long, delay from the specified due date, and engine idle time. As a company that prioritizes the quality, effectiveness and efficiency of resource usage in the facility must be considered by PT. PINDAD. With proper scheduling, delays in completion of large jobs or makespan can be avoided. Therefore, in this study author propose a solution and design in scheduling using neuro fuzzy method that will be able to reduce makespan.

Based on existing conditions, makespan required to complete the Ship Navigation DM.30/MI/X/006 products is quite large. The proposed neuro fuzzy scheduling method aims to determine optimal job sequence to produce smaller makespan than the existing. Scheduling started with fuzzy process and then continued by learning process to obtain parameter changes in membership function and the average training error value. To obtain optimal scheduling sequence is done by testing data. The data is selected in average training error value with smallest amount and closest to the training data.

Based on the results of processed data using neuro fuzzy method, we can concluded that job scheduling using neuro fuzzy method has been successfully created and is able to reduce makespan. This scheduling proposals produce a faster makespan for 18060 minutes or approximately 301 hours, faster than existing scheduling for 21285 minutes, or approximately 354,75 hours. This is a great improvent for a decrease in 15,15152% to be compared with the current makespan.

Keywords : scheduling, neuro fuzzy, makespan