ABSTRACT

The Refinery Unit (RU) V is one of seven refinery processing units owned by PT XYZ located in Balikpapan. Refinery Unit V has twelve warehouses with the main focus on this research are four warehouses namely RGM (General material), RMS (MSL), RIN (instrument), and RSP (spare parts) used to store products of category M (medium) And S (small) used for refinery maintenance process. In the existing condition, there is a delay in traveling searching activities. The occurrence of delay in traveling searching activity caused by the absence of details of the product location clearly. In order to minimize the delay in traveling searching activities, then the proposals made is the allocation of products by making the allocation of products based on the popularity value of each product and the value of the frequency of interaction between products. The final step is to map the pre-defined product storage location so that the layout of each PT XYZ warehouse will be formed.

The first step is to calculate the cycle time for each work order list by calculating the distance between storage point and I / O point based on aisle distance calculation. Next is to compare between the cycle time of each work order list with the standard time of each warehouse, so it will know the percentage of work order list that experienced delay for one year. Next identify the cause of delay in traveling searching activity. So the proposal is to allocate product storage by using one of slotting warehouse method that is Interaction Frequency Heuristic-Order Oriented Slotting with the base of popularity value (COI-Based on popularity) of each product and interaction frequency value between products. The next step creates a new layout for all the products that will then be simulated to test the success rate of the method used. The results of the proposed improvement of traveling searching activities are described with simulation graphs that result in changes in travel cycle cycle time activity that is under the standard warehouse time.

Keywords: Storage Allocation, Slotting Warehouse, Interaction frequency Heuristic-Order Oriented Slotting.