ABSTRACT

PT. Rakhara Technology is a company that focuses on the chemical sector which provides various types of products such as oil & gas, mining & renewable energy, and waste water treatment. In meeting the needs of sales PT. Rakhara Technology implements a make to order production system where the company will carry out production only when orders come in. PT. Rakhara Technology has a wide variety of products, therefore there are various types of raw materials used. The number of variations of raw materials stored by PT. Rakhara Technology as many as 30 types of raw materials which will eventually be used by PT. Rakhara Technology in its production process. With the placement of raw materials that are not suitable and cover the production area, MHE requires backtracking movements. The occurrence of backtracking causes an increase in the distance of material movement so that the speed of the production process is hampered. Based on these problems this final project aims to help PT. Rakhara Technology to reduce material movement distance and time by designing a more optimal facility layout. By designing the facility layout using the BLOCPLAN algorithm, a proposed layout is obtained with an Adjacency score of 0.88, an R-score of 0.74 and a Rel-dist score of 172. proposed layout mileage. The material handling equipment mileage reduces the mileage by 56.8% of the actual mileage and reduces the material movement time by 58.2% of the actual movement time due to the elimination of backtracking that occurs in the production process.

Keywords: *Facility Layout, backtracking, material movement, blocplan*