ABSTRACT

The increasing demand of IRT 4000, one of the products of TPS, enforces the company to release a policy of relayouting facilities in this area in occasion to fulfil the demand. The company must conduct relayout projects, because in fulfilling the demand, the capacity of production is unable to answer these requests. Therefore, adding new machinery is an option to anticipate lost sales. However, availability of space represents a major constraint to execute this plan. One way to solve this problem is to relayout TPS Frontline area. Implementing relayout facilities needs some methods to attain an optimal solution. The Systematic Layout Planning (SLP) philosophy is the one approach to build a new layout design comprehensively. Many aspects are considered when designing a new layout, such as product, time, routing, supporting services, and quantity. Some tools are needed to accommodate these criteria. Group Technology, CORELAP, Planar Graph, Flow Matrix, and Routing are required to develop new facility planning. By combining these tools, the optimal layout can be achieved, and it is shown by a good routing process, shorter distance, minimum handling time and even minimum number of operators.

Key words: Systematic Layout Planning, Group Technology, Planar Graph, CORELAP, Flow Matrix, and Routing.