

## **ABSTRACT**

*PT PLN Nusantara Power Muara Tawar Generating Unit (UP) is a company engaged in electricity generation and supplies electricity to substations. The company has a main warehouse called GMT1 which functions to store materials from all blocks. In it there are facilities or rooms that are not located in accordance with the flow of the work process, namely the administration room with the quarantine room, causing a large distance traveled from warehouse staff and suppliers. The large distance traveled by staff and suppliers occurs because staff experience back and forth movements, while suppliers experience movements around the warehouse. This study aims to produce a proposed facility layout design to minimize the distance traveled by staff and suppliers. The method used to design the facility layout is the BLOCPLAN algorithm. This research produces a proposed layout from the data processing process using the BLOCPLAN algorithm. The selected proposed layout can produce 14 facility moves that can reduce the distance traveled by staff and suppliers. In the selected proposed layout, the staff moving distance is reduced by 12 meters and the supplier moving distance is reduced by 97 meters. When compared to the initial layout, the staff movement distance in the proposed layout has decreased by 15%, while the supplier movement distance has decreased by 78%. So that the proposed layout becomes more efficient.*

**Keywords:** ***BLOCPLAN, Distance Traveled, Facility Layout.***