

## **ABSTRACT**

According to PT. XYZ historical production demand and output data for 2016, there were eight months unmet demand for Medium Voltage (MV) electrical panel. One of the problem that causing it was inadequate manpower. Since there were only managerial judgment for determining manpower, a proper study to determine manpower demand should be taken in account. Thus, this research objective was determining manpower needed using Predetermined-Time System (PTS). MTM-UAS which one of the tools from PTS was used to determine the standard time in MV production division. Standard time for each workstations were gathered and it used to calculate manpower needed. Takt time that determined from forecasted production demand and company working hour also taken place in determining manpower needed. Forecasted manpower needed was determined, the result was used to find the minimum average percent gap of manpower. With using 70% of allowance value, the gap was determined on 13.01%. The gap of 7.25% could be discovered after calculation using brute-force technique done, the result was decrease on the new allowance value on 63%. The optimal manpower demand could be determined using 63% allowance value. Alternatives and recommendations was also given to reconcile the manpower demand and supply in order to case the production demand.

Keywords: Standard time, Takt Time MTM-UAS, Optimal Manpower Demand