

## **ABSTRACT**

*PT ABC is a machine distributor company located in Bandung and has been established since 2008. Although PT ABC's main product is air compressors, PT ABC also provides spare parts used in maintenance activities. The problem experienced by PT ABC is overstock, especially in the oil injected type CompAir brand air compressor spare parts. This overstock problem causes high inventory costs so that companies need inventory policies to minimize inventory costs.*

*In this final project, an integrated design was carried out in the form of inventory policy proposed periodic review  $(R, s, S)$ . In this policy, there are defined decision variables such as review interval  $(R)$ , reorder point  $(s)$ , and maximum inventory  $(S)$ . These variables are obtained by calculating using the Hadley-Within method to obtain  $(R)$  and using power approximation calculations to obtain  $(s, S)$ . Through these two calculations, optimal decision variables are obtained to produce minimum inventory costs.*

*The calculation using the periodic review method  $(R, s, S)$  for each spare part product of CompAir brand oil-injected type air compressor resulted in a total inventory cost reduction of 28.66% from the existing total inventory cost, making the total inventory cost Rp 147,567,025. Although 2 types of spare parts experienced an increase in inventory levels, the overall inventory level is 13.60% lower than the existing condition, leading to a decrease in holding costs by 25.33% to a total of Rp 86,920,375. Despite the significant decrease in inventory levels, the smallest service level value is 98.49%, which does not have a negative impact on inventory performance to meet product demand.*

*Based on these results, it can be concluded that the inventory policy proposed by periodic review  $(R, s, S)$  can overcome the overstock situation experienced by PT ABC.*

**Keywords – [Sparepart, Overstock, Inventory Policy, Periodic Review  $(R, s, S)$ ]**