

ABSTRACT

PT. Pupuk Kujang is a government company engaged in the production of urea fertilizer. Problems faced by companies is a waste, giving rise to products that are high enough to recycle in bagging division, which could make less the company in terms of time and cost. The main objective of this research is to reduce the number of products that are recycled.

Lean Six Sigma approach is used to solve the problems facing companies today. Lean six sigma is a combination of Lean and Six Sigma that aims to eliminate waste and process variation to achieve zero defect failure rate (0%). In Lean, a tool used to direct and understand the current process is value stream mapping. As for the stages of this research is Define, to identify the problems of manufacturers and determine the Critical to Quality, Measure for calculations with the map control, process capability calculations, the level of sigma and DPMO (defects per million opportunities), Analyze is contained of Fish Bone Chart to identify the factors the main causes of the products in the recycle, and the last stage is contained Improve FMEA (Failure Mode and Effect Analyze) to assists in determining the proposed improvements that will be corrected.

The results of this study indicate that there are 4 types of recycling that occurs is torn packaging, stitching loose, gross urea fertilizer, and hard urea fertilizer. Based on calculations by using the FMEA, proposed improvements made is the use of trolley of goods, tarpaulins, canopies, giving reprimads and warnings to employees, increasing the lighting until 100 lux, high pile does not exceed 10 sacks, provides a special warehouse urea fertilizer, and make the warehouse an adjustable ventilation. Another proposal is to eliminate the working element 2, namely, the preparation of sacks and six work elements namely, transportation 1 because considered not provide added value to the product of urea fertilizer.

KEY WORDS : Lean Six Sigma, Pemborosan (waste), Recycle, Value Stream Mapping, FMEA