

## **ABSTRACT**

*PT. Multi Instrumentasi is a manufacturing company that produces water meter. Water meter consist of four major parts, there are body casing, head casing, tube fixed coupling and nute fixed coupling. The part that produced by PT. Multi Instrumentasi are only two part, there are body casing and head casing, therefore the other two parts are obtained from supplier and can be assumed in good condition. Based on reject history date in 2014, body casing is the part that more likely to be reject. So, body casing is chosen as a research object.*

*In an effort to minimize defect waste, use lean six sigma methods with the steps taken following the stage of DMAI (define, measure, analyze, improve). In addition to the stage DMAI also used the tools of lean for production process improvement of body casing. In the define stage, done define SIPOC diagrams and value stream mapping for describe the production process of body casing. The measure stage, determining CTQ, KPI's wasted defects, measuring stability and capabilities process. The analyze stage, determine the root cause of the problem with fishbone chart, 5 Why, and FMEA. The improve stage given the proposed improvement of the results of FMEA to improve the quality of the body casing production process. Some suggestion are given to minimize defect waste such as, the tools for the separation of waste in liquid brass, the conveyor, re-design of the tool for pouring the grass liquid, and the instruction of the use of sand in sand casting is only can use for two processes only.*

**Keyword:** *Lean six sigma, DMAIC, defect waste.*