

## **ABSTRACT**

*PT. Topjaya Toshiba is a company that produces refrigerator. Control panel of the single door refrigerator type is the main object of this research. Waste defect was found in control panel production. Company sets 0.20% as the allowed tolerance for defect rate, but in 2013, average defect rate was 0.33%. Lights-off defect was the highest defective mode with 25.56% contribution based on pareto diagram.*

*In an effort to resolve this problem, lean six sigma methods was chosen. Lean six sigma method uses DMAIC approach and lean tools. Define phase was carried out by waste defect identification, SIPOC diagram and VSM. There were four identified defect mode in the define phase: material defect, assembly defect, indicator knob switch defect and cleanliness. In the measure phase, CTQ, stability and capability process were measured. Analyze phase determined the root cause of the problems by fishbone chart and five-whys method. Lights-off defect was selected to be the top priority to be improved because it contributed high percentage defect. Improvement phase was done to solve root causes of lights off defects.*

*Proposed improvement are (1) to review raw material delivery process by tight inspection form, (2) to fabricate an isolated storage shelves, (3) to implement visual control, (4) to review work procedure on visual controls and (5) to retrain related operators.*

**Key Words:** *Lean Six Sigma, DMAIC, waste defect, fishbone chart, five-whys, visual control*