ABSTRACT

PT.Toyota Motor Manufacturing Indonesia has one work process, namely the Plasma Cutting process, the process is the reuse plate cutting process. In this process, there are still some risks that occur, based on the problem data from January to March 2020, there are 29 risks in the Plasma Cutting process. With these 29 risks, the company has set targets. The purpose of identifying these risks is to determine, recognize, and describe risks, which may be able to assist companies in taking preventive actions (ISO 31000, 2018). There are several factors considered in identifying risks in the Plasma Cutting process, namely the causes, events, and also the consequences and impacts on the output of the process. To find out how big the impact of the risk is, the risk analysis can understand the nature and characteristics of the risk.

One of the methods used to analyze the risk of failure is Failure Mode and Effect Analysis (FMEA). This method can determine the risk rating and can determine the more significant risk which is presented with the Risk Priority Number (RPN) value and provides treatment. for Severity, Occurance, and Detection based on the results of the discussion and the references used. After getting the results of the value scale, the Risk Priority Number (RPN) is calculated which is the result of multiplying Severity, Occurrence, Detection. After the RPN results are obtained, the highest RPN value will be the Risk Priority which will be given a treatment recommendation so that the risk in the Plasma Cutting process can be reduced. Based on the highest RPN value, the results of this study are the results of the proposed treatment for Torch Cable Broken Failure Mode, in which the proposal aims to reduce the risk of the Torch Cable breaking.

Keyword : Risk, Cutting Plasma, Failure Mode and Effect Analysis, Risk Priority Number, Severity, Occurrence, Detection.