

## ***ABSTRACT***

A plant process 600 to 700 kgs of soy to tofu every day. In the production process, The plant had a problem arising from a risk event. Their water filtration had not yet been maintained properly so the final product could not meet their expectation. The risk event occurred because the organization has not yet implemented a risk management system and risk assessment process. The objective of this research is to have knowledge of what risks has not yet been identified, what are the consequences from those unidentified risks, and what should the organization do to treat the risk.

Method used in this research is ISO 31000:2018. The ISO 31000:2018 has the framework to do risk assessment to meet the requirements from ISO 9001:2015. This research also used risk matrix as a tool to evaluate the risk status from the identified and analysed risks. The steps followed by this research from ISO 31000:2018 are risk identification, risk analysis, and risk evaluation. Subsequently, risk treatment would be made from considerations from the risk assessment.

The result of this research is a standard operating procedure or SOP of Machine Maintenance and supported by the documentation form of machine maintenance hoping to prevent and minimize the consequence from the identified, analysed, and evaluated risks.

With said designs, this research hopes that the organization can integrate quality management system (QMS) from ISO 9001:2015 and risk management system by implementing risk assessment from the ISO 31000:2018 framework to prevent or minimize risk events that could potentially harm the organization.

***Key words: risks, ISO 9001:2015, risk assessment, ISO 31000:2018, risk matrix***