ABSTRACT

Rotary Dryer is a machine found in PT XYZ, which plays a role in the drying process of cement raw materials. Because of this function, if there is downtime on the machine, it will result in the cessation of the production process. Based on damage frequency data, the amount of damage occurred 32 times in the 2016-2019 period. The purpose of this study is to determine the risk value, optimal maintenance intervals on critical components and the economic life of the Rotary Dryer machine. Therefore the Risk Based Maintenance method is used to determine the risk value due to failures that occur and optimal maintenance intervals on critical components of the Rotary Dryer machine. In addition, the business consequence determination is also done using a risk matrix business consequence and for determining the economic life of the machine used the Analyst Replacement method. Based on data processing using the Risk Based Maintenance method the risk that must be accepted by the company in the event of a failure of Rp65,066,006, the value exceeds the acceptance criteria limit and based on the risk matrix business consequences Rotary Rotary machine is in the red area, so there needs to be improvements to reduce the higher consequences. At the proposed maintenance interval every 1816 hours, the risk incurred is smaller than the existing risk, and the percentage of risk meets the acceptance criteria set by the company. The economic life of a Rotary Dryer machine is obtained in the 19th year (year 2039) based on calculations using the Replacement Analysis method.

Keywords: *Realibility, Risk Based maintenance, Risk Matrix Business Consequence, Replacement analysis*