ABSTRACT

PT XYZ company located in Karawang Regency, West Java. Is a company processing certain raw materials into fertilizer products, one of the products is urea fertilizer. In the process, urea fertilizer involves many machines, where one of the processes involves a stripper machine. The stripper is the place where the gas separation process is still attached to the fertilizer which is assisted by the separation with CO2. The stripper machine is a separator between chemical solutions with gas in the process of making urea fertilizer. In the process, the engine is susceptible to corrosion and leakage, as a supporting material under conditions of high pressure and temperature. The urea synthesis process is a process that in chemical reaction produces heat (exothermic).

The ACES 21 process is designed efficiently where the heat generated by the urea synthesis reaction can be changed to the maximum level. ACES 21 is a process that combines the advantages of the Solution Recycle process and the ACES separation process. The Synthesis Section of the ACES 21 Process consists of 3 main tools, they are Carbamate Condenser, Reactor and Stripper, Stripper will use thinner, thinning will affect the urea production process by changing the pressure inside the stripper. Therefore, preventive maintenance is needed to minimize the risks that can occur. The approach using the RBI method aims to prevent fatal damage by producing inspection time intervals and the remaining useful life of the machine based on risk. Based on the RBI process, for stripper machines, it is recommended that the new maintenance schedule be divided into thirteen parts of the fittings which will produce a different remaining life. this study shows how much risk that can occur visualized through a risk matrix helps research in determining the level of corrosion risk which will later become the output in the form of inspection schedule in this study.