ABSTRACT

David Marsela Kurniawan, 2018, NIT : 51145341. T. *"Analysis of Auxiliary Boiler Water tube leaking on MV DK 01"*, minithesis for Engineering Department Program, Diploma IV Program, Merchant Marine Academy Semarang, Lecture I : H. Sumarno P.S., MM, M. Mar.E and Lecture II: Henny Wahyu W, M.Pd

Auxiliary Boiler is a closed vessel that produces steam with the pressure of about 1 atmosphere, with the way of heating Boiler water inside of it with hot gases from the combustion of fuel ". That steam is used for supporting engine operations and other ship necessities like heating fuel, lubricating oil, for kitchen necessities and bathroom, also deck and engine room. To fulfiil the needs of pressured steam, remembering the pressured steam is important for the ships operations. The pressured steam can be achieved when Auxiliary Boiler system works normally, so the Auxiliary Boiler has its normal pressure limit up to 6,0 kg/cm^2 and water volume 8,68 m^3. Therefore, knowledge of Auxiliary Boiler, especially its vulnerable are parts is required.

The methode used ijn this research are Fishbone method or cause and Effect method and Fault Tree Analysis. Fishbone or cause and effect uses one of QC 7 tools that is used for identifyng relationship between cause and effect so the root of the problem can be found. Fault Tree Analysis is a tecnique used identifying risks triggering failure. The tecnique of collecting data is done with observation, documentation, and directly to the subject related to Auxiliary Boiler.

The result achieved from this research is that leaking of Auxiliary Boiler water pipes is because the treatment and checking of Auxiliary Boiler water pH are not done properly, and it makes the water become acidic and causes corrosion and leaking of the pipes. The leaking of Auxiliary Boiler water pipes causes decrease of number of pipes and steam production produced affects the ship's operation delay. To solve the problem above, checking and treatment of water Boiler is required and done properly, so the corrosion can be avoided.

Keywords : Auxiliary Boiler, water pipes, pH, corrosion