

## ABSTRACTION

**Adam Firdaus Sandi**, 2018, NIT: 51145304. T, " *Identification of damage to steam turbine blades on cargo oil pump on MT. Galunggung* ", Diploma IV Study Program, Merchant Marine Polytechnic of Semarang, Supervisor I: H. Amad Narto, M.Pd., M.Mar.E, Supervisor II: Adi Oktavianto, ST., MM.

The steam turbine (cargo oil pump) is an auxiliary aircraft that serves as a tool for loading and unloading processes on board, for example to unload cargo, unload cargo, dry cargo tanks, and tank washing, ballast and deballasting. Steam turbines are an initial drive that converts the potential energy of steam into kinetic energy and is then converted into mechanical energy in the form of a turbine shaft rotation. Direct turbine shafts or with the help of reduction gears are connected to the mechanism to be driven.

The method used in this thesis is a Qualitative Descriptive method with fishbone analysis techniques and fault tree analysis as a method to determine the causes and efforts to overcome them. The formulation of the problem of this research is what factors are the basis for the implementation of the damage factor of steam turbine blades on the cargo oil pump, and the efforts made so that the cargo oil pump runs normally.

Based on the results of this study concluded that the cause of the implementation of steam turbine repair on the cargo oil pump is a steam turbine engine (cargo oil pump) that breaks the steam turbine blades, because at that time the ship has finished repairing or docking out of the ship, the ship then loading and unloading at the port of Cevron Dumai, first the turbine runs normally with a speed of 1000 RPM for  $\pm 2$  hours, after that the turbine experiences rotation or speed (RPM) which is unstable for  $\pm 30$  minutes and the turbine stops from rotation. The engineer keeps checking the turbine directly, when there is a physical check outside there are no signs of damage. after the demolition was carried out, the cause of the turbine damage was rubbing between the road blade and the transmission blade which caused the turbine blades to break, and the turbine bearing was also damaged. After observing the cause of the breakdown of the turbine blades, the installation of turbine shafts is not precise or not straight and bearing conditions are damaged or worn. The effort taken to overcome the damage of the steam turbine blades on the cargo oil pump is the installation of turbine shafts must be installed with precision or straight according to the manual book instructions, replacement of all damaged turbine bearings with new bearings, and periodic maintenance according to the plan maintenance system procedures .

**Keywords:** Steam turbines, broken turbine blades, bearing is worn.