

ABSTRACT

Wawan Setiadi, 2017, NIT: 50134923.T, “*Fuel Gas Trip Analysis on Dual Fuel Diesel Engine Generator at MV. TANGGUH FOJA*”, Program Diploma IV, Technical, Merchant Marine Polytechnic of Semarang, Supervising I: Abdi Seno, M.Si, M.Mar.E and Supervising II: Febria Surjaman, M.T.

The Dual fuel diesel engine generator is a 4-stroke diesel engine consisting of two main parts that is diesel and alternator that work with LNG natural gas as the main fuel and diesel oil as fuel reserves. Diesel engine is an aircraft that can convert heat energy into mechanical energy which then the mechanical energy is connected to the alternator to generate electric power. From the alternator connected to the transformer to raise and lower the voltage as required, then the power is connected to the propulsion of the motor to drive the ship's propulsion machine such as electrical propulsion motors used in MV. Tangguh Foja. This machine can be exchanged from gas operation to backup fuel operation. The disruption of the fuel gas system is the occurrence of a fuel gas trip which results in the engine not being able to switch from reserve fuel to gas fuel operation from it interfering with the performance of the dual fuel diesel engine and the ship's operational. The existence of such events need to be well maintained system of gas fuel so that the performance of DFDE and operational ship can run normally.

To know the occurrence of fuel gas trip on natural gas fuel system in need analysis and study by using descriptive qualitative research method. In this case the authors use the SWOT method as a data analysis technique to analyze the problems that exist in the dual fuel diesel engine generator, which factors are what causes the fuel gas trip and what efforts are made to overcome the factors of the problem by identifying various factors systematically against strenghts, weaknesses, opportunities, and threats from the environment to formulate the strategy to be taken.

By using qualitative descriptive research method with data analysis technique of SWOT method in obtaining certainty that the disruption occurred in two factors, that is 1) The high temperature of exhaust gas caused by dirty injector nozzle and damage to SOGAV component that is broken moving matering plate and lower plate erosion. 2) Improper fuel processing is caused by excessive methane burning on GCU during DFDE running and lack of gas heater. To overcome these factors do the maintenance on the injector and SOGAV in accordance with the manual book and does not run GCU when DFDE runs and do regular maintenance on the boiler when at the port.

Keywords: *DFDE, Fuel Gas Trip, SWOT.*