

## ABSTRACT

**Ilham Yogi Hidayat**, 2018, NIT : 50134999.T “Identify The Cause Broken of Air Dryer System to Nitrogen Generator purity of MT. Gas Maluku”, minithesis of Technical Program, Diploma IV Program, Merchant Marine Polytechnic Semarang, Supervising professor I: H. Sumarno S.P, M.M., M.Mar. E and Supervising professor II: Febria Surjaman, M.T.

MT. Gas Maluku have a nitrogen generator system. nitrogen generator system is machinery to produce pure nitrogen gas. Pure nitrogen gas is used to purging cargo tank. In operational progress nitrogen generator system usually get trouble, that was low purity of nitrogen. The trouble caused by damage of air dryer system. Air dryer system is used to decrease humidity of pressured air that will enter absorbent tank. If humidity is to high can decrease purity of nitrogen gas that make progress of purging cargo tank failed.

The type of this research is descriptive qualitative with SWOT data analysis method. SWOT analysis is a form of situation analysis with various factors systematically to the strength, weakness, opportunities and threats from the environment to formulate a strategy that will return to determine the factors that cause air disruption. The data processing techniques performed illustrate, publish and program directly in the direction associated with the nitrogen generator to determine the causes and efforts made to purify the nitrogen generator back to normal.

The results obtained from this study that the decrease in purity of nitrogen generator gas is caused by constriction of condenser water side pipes, solenoid valve in condenser seawater condenser pipes, sea water has a high mineral content and low water pressure condenser cooling water. The impact of this problem factor is the decrease of sea water pressure, it causes the freon cooling is not maximal so increase the pressure of the suction and press freon. The final impact is the decrease of nitrogen generator purity. Efforts are made to overcome the constriction of condensers, solenoid valve jammed and high levels of mineral water high sea is to do the cleaning. Countermeasures the impact of the decrease in condenser seawater pressure by replacing the water pump impeller with the original.

**Keywords : Nitrogen gas generator, Air dryer system, Condenser.**