ABSTRACT

“SHIP CONVERSION FEASIBILITY STUDY OF OIL TANKER MARLINA XV 29990 DWT INTO BULK CARRIER”

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In recent years especially in oil tanker, conversion technology in ship is become popular, because it has lower cost and short time than making a new building ships. Many of tanker is being converted because it was too old and there is new regulation in MARPOL 73/78 about double hull and double bottom for oil tanker.

In this final project will be discussed about conversion from oil tanker MARLINA XV (IMO Number 7925778) into bulk cargo ship carrying coal (bulk carrier) because requirement of the Papua Jayapura Power Plant 2 (2x10MW) needs low-calorie coal about 250,00 tons/year.

For the technical analysis, the ship from the conversion project should be able to comply with some criteria such as: typical of cargo hold bulk carrier, freeboard minimum, longitudinal strength with BKI Rules, design has been verified with FEM Analysis CSR, and stability of the ship with IMO stability Criteria. For the economic analysis, it calculated for the cost that required to convert oil tanker ship to become bulk carrier ship.

After the calculation is done, the result for the cargo hold capacity after conversion is 24,139 tonnes of low-calorie coal with density 1,346 tons/m³ and 10.252 for the draft of ship. For the result of maksimum stress in longitudinal strength is 1465.33 (Kg/cm²) and the stability of ship is comply with IMO stability Criteria. For the cost that required to convert oil tanker ship to become bulk carrier ship is 105.290.220.300,00 IDR.

Keywords : MT MARLINA XV, Conversion Oil Tanker into Bulk Carrier