

BAB IV

PENUTUP

IV.1 KESIMPULAN

1. Dari analisa yang dilakukan di lapangan serta ditunjang dasar teori maka dapat diambil kesimpulan bahwa dalam penggunaan pesawat *boiler* di kapal-kapal tanker masih banyak mengalami kendala pada pemeliharaan terbukti bahwa kerusakan pada pipa-pipa *boiler* masih terjadi yang diakibatkan tidak baiknya pemeliharaan dan menggunakan dana perbaikan yang sangat mahal.
2. Dengan menggunakan *Thermal Boiler* lebih mudah dioperasikan, mudah dalam pemeliharaan dan penggunaan dana untuk pemeliharaan jauh lebih murah bila dibandingkan dengan *boiler*.
3. Dengan melaksanakan sistem pemeliharaan PMS (*Plan Maintenance System*) akan dihasilkan pemeliharaan yang maksimal dan pesawat akan mempunyai *life time* yang lama dan dapat menghemat biaya operasional sehingga dapat diperoleh keuntungan:
 - Mempersingkat waktu pelaksanaan *docking*.

- Peningkatan jumlah operasi kapal (*commision days*).
- Dapat mengurangi terjadinya kerusakan yang fatal.
- Mempertahankan kapal dalam kondisi baik.
- Memperpanjang usia pakai (*life time*).

IV.2 SARAN - SARAN

1. Pada kapal-kapal tangker bangunan baru terutama yang dirancang untuk membawa minyak mentah (*crude oil*) dan jenis *black product* sebaiknya menggunakan pemanas sistem *Thermal Boiler* karena dalam pengoperasian sangat mudah dan dapat menghemat biaya operasional kapal bila dibanding dengan pemasangan boiler.
2. Penerapan *Plan Maintenance System* (PMS) pada setiap mesin termasuk *Thermal Boiler* dapat terhindar dari kerusakan yang fatal (*breakdown*) karena kerusakan dini dapat dimonitor oleh operator.
3. Setiap awak kapal yang baru harus dilakukan pelatihan terlebih dahulu untuk memahami karakteristik setiap pesawat di kapal.

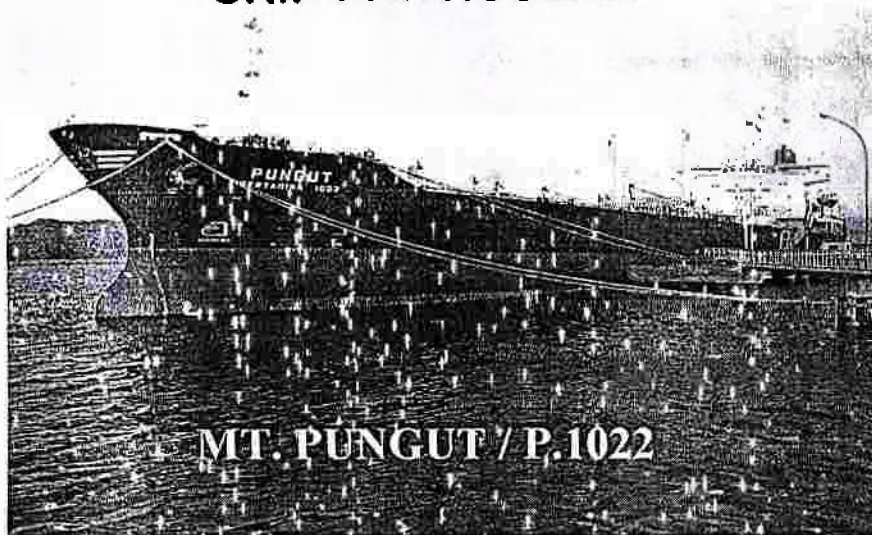
4. Selalu mengadakan komunikasi dengan *shore base* (kantor di darat) agar proses *maintenance* dapat diketahui oleh bagian teknik di *shore base*.



DAFTAR PUSTAKA

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SHIP PARTICULAR



MT. PUNGUT / P.1022

SHIP NAME	:	MT. PUNGUT / P.1022
KIND OF SHIP	:	OIL TANKER
FLAG	:	INDONESIA
PORT REGISTER	:	JAKARTA
CALL SIGN	:	YDXY
SHIP BUILDER	:	KANASHASI SHIPBUILDING CO LTD. JAPAN
YEAR OF BUILD	:	DECEMBER 1979
SHIP NUMBER	:	1292
SHIP OWNER	:	PT PERTAMINA (PERSERO)
PREVIOUS CLASS	:	BKI
CLASS CHARACTER	HULL	: + 100A1 " OIL TANKER " ESP
	ENGINE	: 3 SM
LOA	:	149.21 M
LPP	:	140.00 M
LWL	:	144.50 M
GROSS TONAGE	:	11.864 T
NET TONAGE	:	6.218 T
DEAD WEIGHT TONAGE	:	15.521 T
DISPLACEMENT	:	19.774 T
BRT	:	10,620.00 T
DEPTH	:	11.80 T
DRAFT	:	7,00 M
ALAT PENGGERAK UTAMA	:	HITACHI B & W
TYPE	:	HITACHI B & W 7L45 GFC
BORE/ STROKE	:	450 MM/ 1200 MM
MAKER	:	HITACHI ENGINEERING CO, LTD.
PROPELLER	:	4,200 MM X 2,740 MM

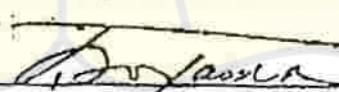
BUILDER'S CERTIFICATE

THIS IS TO CERTIFY that KANASASHI SHIPBUILDING CO., LTD., a corporation organized and existing under the laws of Japan with its head office at 491-1 Miho, Shimizu-shi, Shizuoka Pref., Japan, has built the Vessel described hereunder.

Name of Owner	: Graciela Shipping Inc.
Kind of Vessel	: Product Oil Tanker
Name of Vessel	: PERTAMINA 1022 ✓
Builder's Hull Number	: 1292
Port of Registry	: Panama, the Republic of Panama
Classification	: Lloyd's Register of Shipping
Registered Length	: 142.38 m ✓
Registered Breadth	: 24.63 m
Registered Depth	: 11.94 m
Draft	: 7.00 m
Gross Tonnage	: 10,620.73 tons
Net Tonnage	: 6,218.08 tons
Deadweight	: 15,270 long tons (15,514 metric tons) at 7.00 m draft
Number of Deck	: One (1)
Number of Cargo Oil Pump	: Three (3)
Number of Cargo Oil Tank	: Four (4)
Place of Construction	: Toyohashi Works, Kanasashi Shipbuilding Co., Ltd., Toyohashi, Japan
Date of Keel-laying	: 25th July, 1979
Date of Launching	: 4th November, 1979
Date of Delivery	: 28th December, 1979
Type & Number of Engine	: One (1) set of HITACHI B&W 7L45GF
Output of Engine	: 6,160 BHP at about 170 rpm (Maximum Continuous Output)
Engine Maker	: Hitachi Shipbuilding & Engineering Co., Ltd.

IN WITNESS WHEREOF, KANASASHI SHIPBUILDING CO., LTD. has hereby executed this Certificate on this 21st of December, 1979.

KANASASHI SHIPBUILDING CO., LTD.


 Tetsuya Aoyama
 Representative Director

1. SHIP'S BUILDER & BUILDING PROCESS:

Builder	:	Sasebo Heavy Industries Co., Ltd. Sasebo Shipyard Sasebo, Japan
Building Process	:	
	★	Date of Keel Laying : March 30, 1998
		Date of Launching : May 27, 1998
		Date of Delivery : August 31, 1998

2. PRINCIPAL DIMENSIONS, ETC.

Register length	:	151.30 m
Length, over all	:	158.00 m
Length (lpp)	:	150.00 m
Breadth (molded)	:	27.70 m
Depth (molded)	:	12.00 m
Design draft (molded)	:	7.00 m
Summer draft (molded)	:	6.875 m
" (extreme)	:	6.896 m

Deck Height (at center line, molded)	:	
Upper deck	-	"A" deck : 2.60 m
"A" deck	-	"B" deck : 2.60 m
"B" deck	-	"C" deck : 2.60 m
"C" deck	-	Nav. B. deck : 2.60 m
Nav. Bridge deck	-	Compass deck : 2.60 m
Upper deck	-	"F" deck : 2.60 m

Sheer on upper deck : Due to camber only

Camber of deck in 27.70 m breadth :

Upper deck	:	600 mm (Trapezoid camber)
"F" deck	:	Nil
Other deck	:	200 mm (Straight camber)

Klase of floor : None

3. (cont'd)

International Maritime Organization Resolutions to be applied for the following item.

A.464 (2) - Amendments to The International Regulations for Preventing Collisions at Sea, 1972

A.468 (2) - Code on Noise Levels on Board Ships

4. DEADWEIGHT & CAPACITY:

Deadweight
at summer draft ; 17,500 long tons
(17,781 metric tons)

Capacities (100 % full)

Cargo tanks	;	24,814	cub.m
Fuel oil tanks	;	808	cub.m
Diesel oil tanks	;	123	cub.m
Fresh water tanks	;	276	cub.m
Water ballast tanks including peak tanks	;	12,137	cub.m
Lubricating oil tank	;	8.6	cub.m

See Capacity table (page 13 - page 16).

5. PROPELLING MACHINERY, ETC.

Main engine :

Japanese make diesel engine : MITSUBI B&W 6S35MC 1 set

Maximum continuous rating (MCR) : 4,192 KW x 170.0 rpm
(5,700 ps)

Normal service rating (NSR) : 3,773 KW x 164.1 rpm
(5,130 ps)

Thermal oil boiler:

Type and Number ; Liquid forced circulating type (NTB-250i) 2 sets

Working pressure

Maximum ; 10.0 kg/cm²

Normal ; 5.0 kg/cm²

Working temperature

Maximum ; 220 °C

Normal ; 190 °C

SUNROD MARINE BOILER

