Rpt. 4c

Date of writing report 25th Dec.,1958. Received London ..... Port KOBE No. FE-6236

Survey held at Amagasaki, Kasado No. of visits 5 (Kobe), 5 (Shimonoseki) First date 24th Oct.,58, 10thJan.,59 Last date 28th Nov.,1958 (Kobe), 7th Feb.,1959 (Shimonoseki)

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship M.S. "NARRA" *(Or Contract No. if name unknown).* *Owners* Ace Line Co. *(Or Consignees)*

Ship Built at Kasado, Japan *by* Kasado Dockyard Co.,Ltd. *when* ..... *Yard No.* 203

Auxiliary Engines ~~xxxxxxxx~~ *made at* Amagasaki *by* Yanmar Diesel Engine Co.,Ltd. *when* 1958-11 *Eng. Nos.* Kanzaki Works, 84153 DY, 84154 DY

Total No. of sets and description (including type name) 2 sets - 4 stroke cycle acting Yanmar 4MSL type diesel engine

INTERNAL COMBUSTION RECIPROCATING ENGINES. *No. of cylinders per engine* 4 *Dia. of cylinders* 200mm *Stroke* 280mm *2 or 4 stroke cycle* 4 *Maximum approved BHP* 120 *at* 600 *RPM Corresponding MIP* 6.395kg/cm^2 *Maximum pressure* 55 kg/cm2 *Fuel* Diesel Oil *Are cylinders arranged in Vee or other special formation?* No *If so, No. of crankshafts per engine* - *Is engine of opposed piston type?* No *No. and type of mechanically driven scavenge pumps or blowers per engine* None *No. of exhaust gas driven blowers or superchargers per engine* None *Is welded construction used for: Bedplate?* No *Entablature?* No *Total internal volume of crankcase (if 20 cu. ft. or over)* 587 Litre *No. and total area of crankcase explosion relief devices* 3-147 cm^2 *Are flame guards or traps fitted?* Yes *Cooling medium for: Cylinders* Fresh water *Pistons* None *No. of attached pumps: F.W. cooling* 1 *S.W. cooling* None *Lubricating oil* 1 *How is engine started?* Compressed air

SHAFTING. *Is a damper or detuner fitted?* None *No. of main bearings* 5 *Are bearings of ball or roller type?* No *Distance between inner edges of bearings in way of cranks* 246 mm *Crankshaft: ~~Built, semi-built~~ solid. Material of crankshaft* Forged Steel *Approved minimum tensile strength* 55 kg/mm2 *Dia. of pins* 125mm *Journals* 140mm *Breadth of webs at mid throw* 190mm *Axial thickness* 62mm *If shrunk, radial thickness around eyeholes* - *Dia. of flywheel* 950mm *Weight* 820 kgs *Are balance weights fitted?* Yes (balance weight 34 kgs) *Total weight* 854 kgs *Rad. of gyration* 776mm *Dia. of flywheel shaft* -

Has each engine been tested in shop? Yes *How long at full power?* 4 Hr. *Was it tested with driven machinery attached?* Yes *Was the governing tested and found satisfactory?* Yes *Date of approval of torsional vibration characteristics (for engines of 150 BHP and over)* -

Date of approval of shafting 22-11-1958 *Identification marks on shafting* MB CK 501, Y13322

Particulars of driven machinery 90kVA A.C. Generator & HC265 type air compressor (30 H.P.)

Port and No. of Certificate for Starting Air Receivers 2200 liter- Kobe Ar-53473, 150 liter- Kobe Ar-53523.

AUXILIARY GAS TURBINES. *BHP per set* ..... *At* ..... *RPM of output shaft. Open or closed cycle?* .....

Arrangement of turbines. *(A small diagram should be attached showing gas cycle)*

HP drives	*at*	*RPM*	*HP gas inlet temp.*	*pressure*	
IP "	*at*	"	*IP* " " "	"	
LP "	*at*	"	*LP* " " "	"	

No. of air compressors per set ..... *Centrifugal or axial flow type?* ..... *Material of turbine blades* .....

Material of compressor blades ..... *No. of air coolers per set* ..... *No. of heat exchangers per set* ..... *How are turbines started?* ..... *Are the turbines operated in conjunction with free piston gas generators?* .....

Total No. of free piston gas generators ..... *Dia. of working pistons* ..... *Dia. of compressor pistons* ..... *No. of double strokes per minute at full power* ..... *Gas delivery pressure* ..... *Gas delivery temperature* .....

Have the turbines and attached equipment been tested in shop? ..... *How long at full power?* ..... *Were they tested with driven machinery attached?* ..... *Particulars of gearing* .....

Date of approval of plans ..... *Identification marks* ..... *Particulars of driven machinery* .....

ELECTRIC GENERATORS. *Port and No. of Certificate for generators of* 90 kVA ~~100 Kw. and over~~ *Nos.* ~~xxxxxxxxxx~~ YOKOHAMA M-5244A, 5244B.

For generators under 100 Kw., has Makers' Certificate been obtained? - *Are Certificates attached?* -

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

Manager of Kanzaki Works, Yanmar Diesel Engine Co.,Ltd. *Manufacturer*

Is this machinery duplicate of a previous case? Yes *If so, which?* M.V. "NORTH BREEZE"

GENERAL REMARKS. *State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.*

These Aux. oil engines have been constructed under Special Survey in accordance with the Rules, Approved Plans and the Secretary's letters.

The materials and workmanship are sound and good.

The Engines have been examined under full working condition in the shop and found satisfactory.

It is recommended that the engines are eligible in my opinion to have a record of +LMC with date when satisfactorily installed in a ship classed with the Society.

Survey Fee ¥46,000.-
Expenses 3,320.-
Date when a/c rendered NOV. 29. 1958

K. Tabuchi
Engineer Surveyor to Lloyd's Register
K.Tabuchi.

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the M.V. "NARRA" *at* Kasado, Japan *in a proper manner and found satisfactory when tested on the (date)* 29th&30th Feb.,1959 *under full working conditions.*

Engineer Surveyor to Lloyd's Register

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