

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

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Date of writing Report 19 When handed in at Local Office OCT. 19. 1956 Port of Kobe

No. in Survey held at Innoshima, Japan Date, First Survey 21st Nov. 1955 Last Survey 31st July 56

Reg. Book. (No. of Visits 25)

on the Steel Single Screw Steamer "NAESS VENTURER"

Tons { Gross 208.8830
Net 152.730

Built at Innoshima, Japan By whom built Hitachi S.B. & E.Co., Ltd. Innoshima Shipyard Yard No. 3777 When built 7 Mo. 1956

Owners Port belonging to Monrovia

Installation fitted by Hitachi S.B. & E.Co., Ltd. Innoshima Shipyard When fitted 7 Mo. 1956

Is vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. No Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Three phase, three wire Voltage of Lighting 110

cooking 220 Power 440 D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted

with a trip switch No Generators, are they compound wound - and level compounded under working conditions -

Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole -

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines

under 100 kw. been supplied and the results found as per Rule Yes Position of Generators All in machinery space aft

athwart on 3rd dk. Main generators-One each port & starboard sides. Auxiliary generator-At centre

is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury and

damage from water, steam and oil Yes Switchboards, where are main switchboards placed In machinery space

starboard side on 3rd deck.

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water,

steam and oil Yes, what insulation is used for the panels Phenol-resin bonded board, if of synthetic insulating

material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as

per Rule - Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear

for each generator and arrangement of equaliser switches. A triple insulated pole linked air circuit breaker with

an instantaneous over current relay in each phase and inverse over current relay in two

phases

and the switch and fuse gear (or circuit breakers) for each outgoing circuit. A triple isolated pole linked no fuse breaker with over current relay in each phase.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 7

ammeters 7 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reverse current

protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided 2 sets of

Metal filament lamps; one for power circuit and one for lighting circuit Preference Tripping, state if provided - and tested -

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes

make of fuses Utsunomiya Elect. Mfg. Co., are all fuses labelled Yes If circuit breakers are provided for the generators, at what

overload do they operate 25% Main generator 8 sec. Aux. gen. 13 sec. and at what current do the reverse current protective

devices operate 26 K.W. Cables, are they insulated and protected as per Rule Yes

if otherwise than as per Rule are they of an Approved Type - state maximum fall of pressure between bus bars and any point

under maximum load 10 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends Yes

Are all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical

damage Yes, are any cables laid under machines or floorplates No, if so, are they adequately protected - State

type of cables (if in conduit this should also be stated) in machinery spaces Varnished cambric insulated, Varnished cambric

and laundries lead sheathed and m. braided State how the cables are supported or protected All cables secured by metal clip

on galvanized perforated steel plate in machy. space. Cables on the deck are laid in

galvanized steel trunk or galvanized steel pipes

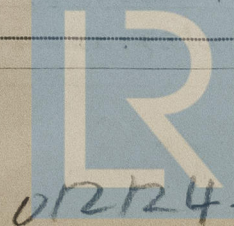
Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight

bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes

effectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Yes

Have refrigeration fan motors been constructed under survey No and test certificates supplied -

Are the motors accessible for maintenance at all times Yes



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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes Emergency Supply, state position Not equipped

Navigation Lamps, are they separately wired Yes controlled by separate double pole switches and fuses Yes Are the switches and fuses in a position accessible only to the officers on watch Yes, is an automatic indicator fitted Yes Is an alternative supply provided Yes

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule Yes, state battery capacity in ampere hours 2 sets - 24V. 200 A.H. Where required to do so does it comply with 1948 International Convention Yes

Lighting, is fluorescent lighting fitted Yes If so, state nominal lamp voltage 110V. and compartments where lamps are fitted

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Yes

Searchlights, No. of One for Suez canal other fixed or portable Fixed, are they of the carbon arc or of the filament type Filament

Heating and Cooking, is the general construction as per Rule Yes, are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Not fitted Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil Yes

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment Yes Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Yes

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule Yes

Lightning Conductors, where required are they fitted as per Rule Yes

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied with Yes, are all fuses of an Approved Cartridge Type Yes, make of fuse Uta nomiya Elect. Mfg. Co., Cello lite Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships Yes Are all cables lead covered as per Rule Yes

E.S.D., if fitted state maker Helvin & Hughes location of transmitter and receiver Fwd. in eng. room (Bet. F. Nos. 51 & 52)

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations Yes

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory Yes

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | MAKER. | RATED AT | | | | PRIME MOVER. | |
|---------------------------|--------|---------------|--------------------|--------|----------|----------------|--------------|---------------------|
| | | | Kw. per Generator. | Volts. | Ampères. | Revs. per Min. | TYPE. | MAKER. |
| MAIN | 2 | Hitachi Ltd., | 650KVA | 450 | 834 | 1200 | St. Turbine | Hitachi Ltd., |
| Auxiliary | 1 | Hitachi Ltd., | 125KVA | 450 | 160 | 720 | Diesel Eng. | Daihatsu Kogyo K.K. |

GENERATOR CABLES.

| DESCRIPTION. | No. of | Kw. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|--------------------------|--------|--------|---------------------------|--|-----------------------------|-------|---|-------------------|---------------------------------|
| | | | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| MAIN GENERATOR | 2 | 650KVA | 4 | 37/0.093 | 834 | 924 | 66 & 76 | Varnished cambric | Lead sheathed and metal braided |
| EQUALISER | | | | | | | | | |
| EMERGENCY GENERATOR | 1 | 125KVA | 1 | 37/0.072 | 160 | 166 | 66 | V.C. | L.S. and M.B. |
| ROTARY TRANSFORMER MOTOR | | | | | | | | | |
| GENERATOR | | | | | | | | | |

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

| DESCRIPTION. | | | | | | | | Lead sheathed and metal braided |
|--|-------|--------|------|-----|-----|------|-------------------|---------------------------------|
| M.S.B. to Power Section Box P2(Air Compressor) | 1(3c) | 0.06 | 80.5 | 91 | 122 | V.C. | | |
| " " " P19"(Sanitary pumps) | " | 0.007 | 3.9 | 19 | 66 | do | " | |
| " " " P22"(Distilling plant etc.) | " | " | 12.8 | 19 | 115 | " | " | |
| " " " P23 "(F.W.and Bilge pumps) | " | 0.0145 | 18 | 38 | 76 | " | " | |
| " " " P24 "(S.W. Service Pumps) | " | 0.04 | 48 | 70 | 119 | " | " | |
| " " " P26"(L.O.Purifiers) | " | 0.007 | 3.9 | 19 | 33 | " | " | |
| " " " P30"(Vent. Fans) | " | 0.06 | 63 | 91 | 66 | " | " | |
| " " " P31 "(Thermo-tank Fan) | " | 0.0145 | 20 | 38 | 138 | " | " | |
| " " " P35 "(Ref.Machines) | " | " | 15.2 | 38 | 125 | " | " | |
| " " " P36 "(Cooking Range etc.) | " | 0.04 | 59 | 70 | 49 | " | (Primary side)" | |
| " (Through Trans. 450/230V. 15KVA x 3) | " | 0.1 | 118 | 128 | 148 | " | (Secondary side)" | |
| " " Forward Switch Board | " | 0.06 | 57 | 91 | 394 | " | " | |
| " " S.B. (A.C. 115V. Feeder Panel) | " | 0.04 | 59 | 70 | 49 | " | (Primary)" | |
| " "(Through Trans 450/115V. 15KVA x 3) | " | 0.25 | 226 | 231 | 49 | " | (Secondary)" | |

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

| DESCRIPTION. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|---|---------------------------|--|-----------------------------|-------|---|-------------|---|
| | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| M.S.B. (A.C. 115V Feeder panel) to Lighting section box | 1(3c) | 0.06 | 84 | 91 | 76 | V.C. | Lead sheathed and metal braided |
| L1 to Lighting Dist. Box Le (Poop Dk. Stbd.) | " | 0.01 | 23.6 | 32 | 82 | " | " |
| " " " " " Lf (Poop Dk. pt.) | " | 0.007 | 18.3 | 21 | 82 | " | " |
| " " " " " Wc (Projector & Cargo Lamp) | " | " | 13.2 | 21 | 131 | " | " |
| " " " " " Lg (Upper Dk. Std.) | " | " | 17.7 | 21 | 82 | " | " |
| " " " " " Lh (Upper Dk. Pt.) | " | " | 15.8 | 21 | 82 | " | " |
| " " " " " Li (Upper Dk. aft. store) | " | " | 15.7 | 21 | 16 | " | " |
| M.S.B. (A.C. 115V Feeder panel) to Lighting Dist. Box | " | 0.06 | 89 | 100 | 49 | " | " |
| " " " " " to Inter-Communication Dist. Box (Eng. & B. Room) | " | 0.007 | 6 | 21 | 49 | " | " |
| " " " " " Nav. Indicator Panel | " | 0.0045 | 1.74 | 15 | 49 | " | " |
| " " " " " 1K.W. Day Light Signal Light | " | 0.003 | 9 | 10 | 49 | " | " |
| " " " " " 3K.W. Suez Projector | " | 0.04 | 27.3 | 110 | 378 | " | and or armoured lead sheathed and metal braided |
| FWD S.B. (A.C. 450V Feeder Bus) to Gyro Compass | " | 0.007 | 1.8 | 21 | 66 | " | " |
| " " " " " Radar | " | " | 2.7 | 21 | 66 | " | " |
| " " " " " Wireless Equipment | " | " | 6.8 | 21 | 66 | " | " |
| " " " " " FWD S.B. (A.C. 115V Feeder Bus) | " | 0.145 | 29.5 | 42 | 141 | 33 (S.S.) | " |
| FWD S.B. (A.C. 115V Feeder Bus) to Lighting Dist. Box La (Comp & N. Bridge) | " | 0.007 | 16.8 | 21 | 49 | " | " |
| " " " " " to Wa (Nav. Bridge Projector) | " | 0.0045 | 5.3 | 15 | 49 | " | " |
| " " " " " Lb (Captain Bridges dk.) | " | 0.007 | 18.5 | 21 | 46 | " | " |
| " " " " " Lc (Bridge Dk.) | " | 0.01 | 29 | 32 | 49 | " | " |
| " " " " " Wb (Cargo Lamp) | " | 0.007 | 11.8 | 21 | 49 | " | " |
| " " " " " Ld (Fwd. ship general lamp) | " | " | 12.9 | 21 | 197 | " | Lead sheathed and armoured |
| " " " " " to Inter-Communication Dist. Box, Ca (Echo scander etc.) | " | " | 7 | 21 | 49 | " | L.S. & M.B. |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | MOTOR MODEL. | | | | MOTOR SIZE. | | |
|---|-----|---------|--------------|--------|----------|-----|---------------|------|------------------------------------|
| Ships Service Air Comp. | 1 | 35 | 1(3c) | 0.0225 | 42 | 51 | 49 | V.C. | Lead sheathed and metal braided |
| Control System " " | 1 | 7.5 | " | 0.007 | 9.5 | 19 | 49 | " | " |
| Main Circulating Pump | 2 | 155/100 | " | 0.25 | 218/155 | 231 | 123 & 125 | " | " |
| Aux. " " | 1 | 20 | " | 0.0145 | 25 | 38 | 125 | " | " |
| Main Condensate Pump | 2 | 35 | " | 0.0225 | 42 | 51 | 91 | " | " |
| Aux. " " | 1 | 7.5 | " | 0.007 | 9 | 19 | 131 | " | " |
| Condensate & Drain Trans. Pump | 2 | 15 | " | 0.0145 | 18 | 38 | 95 | " | " |
| Lub. Oil Service Pump | 2 | 40 | " | 0.04 | 48 | 70 | 95 | " | " |
| Fuel Oil Service Pump | 2 | 15/7.5 | " | 0.0145 | 19/12 | 38 | 108 | " | " |
| Boiler Forced Draft Fan | 2 | 135/35 | " | 0.15 | 159/48.5 | 166 | 138 | " | " |
| Atm. Exh. Condenser Cir. Pump | 1 | 40 | " | 0.04 | 48 | 70 | 128 | " | " |
| Sanitary Pump | 2 | 3 | " | 0.007 | 3.9 | 19 | 33 | " | " |
| Fire & G.S. Pump | 1 | 75 | " | 0.1 | 88 | 128 | 59 | " | " |
| Bilge & Ballast Pump | 1 | 25 | " | 0.0145 | 30 | 38 | 92 | " | " |
| Bilge Pump | 1 | 5 | " | 0.007 | 6 | 19 | 76 | " | " |
| Sea Water Service Pump | 2 | 20 | " | 0.0145 | 24 | 38 | 33 | " | " |
| Fuel Oil Transfer Pump | 1 | 20 | " | (11)" | 27 | 38 | 122 | " | " |
| Vent. Fan (Supply) | 4 | 10 | " | 0.007 | 12.5 | 19 | 49 & 72 85 | " | " |
| " " (Exhaust) | 2 | 5 | " | " | 6.5 | 19 | 62 & 108 | " | " |
| Steering Gear | 2 | 35 | " | 0.0225 | 45 | 51 | 181 & 207 | " | " |
| Ref. Machine | 2 | 10 | " | 0.007 | 12.5 | 19 | 49 | " | " |

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.

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The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
The foregoing is a correct description.

H. Miyatake
H. Miyatake, Chief of Elect. Eng. Section, Inmoshima Shipyard.

Electrical Contractors.

Date 12th September 1956

COMPASSES.

Have the compasses been adjusted under working conditions.....

Yes

S. Akamatus
S. Akamatus, Manager, Inmoshima Shipyard

Builder's Signature.

Date 12th September 1956

Have the foregoing descriptions and schedules been verified and found correct.....

Yes

Is this installation a duplicate of a previous case..... Yes If so, state name of vessel.....

S.S. "ALEXANDRA I"

Plans. Are approved plans forwarded herewith..... No If not, state date of approval.....

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith..... Yes

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.).....

The Electrical Installation of this ship has been constructed under Special Survey in accordance with the Rules, Approved Plans and Secretary's Letter.

The material and workmanship are satisfactory.

The generators and motors etc., have been examined under full loading condition to Rules requirements and found satisfactory.

Total Capacity of Generators 1425 KVA Kilowatts.

The amount of Fee ... £247.800 When applied for,

OCT. 19, 1956

Travelling Expenses (if any) £5000 When received, 19...

J. Amadas
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUESDAY 18 DEC 1956

Assigned See Rpt. 1.