

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

29 JUN 1953

Date of writing Report 29-5-1953 When handed in at Local Office 19 Port of

No. in Survey held at Shimizu Japan Date, First Survey 23-12-52 Last Survey 23-5-1953
Reg. Book. (No. of Visits 16)

on the S.S. "Leonidae" Nippon steel tube Co. Ltd. Yard No. 151 When built 1953.5 mo

Built at Shimizu Japan By whom built Shimizu Shipyard Owners Miramonte Compania Naviera S.A Port belonging to Monrovia Liberia

Installation fitted by Nippon Steel Tube Co. Ltd., Shimizu Shipyard When fitted 1953.5 mo

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. Radar Yes

Plans, have they been submitted and approved Yes System of Distribution 3 Phase, 3 Wire Voltage of Lighting 110V

Heating 220V 110V Power 220V 3 Phase D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60 Cycle

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

Generators, are they compound wound and level compounded under working conditions

if not compound wound state distance between generators and from switchboard Are the generators arranged to run in parallel Yes, are shunt field regulators provided Is the compound winding connected to the negative or positive pole

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines under 100 kw. been supplied Yes and the results found as per Rule Yes

Position of Generators Generator plat form in engine room, Port and Star board (Manoeuvring plat form)

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 Manoeuvring plat form forward centre

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 Synthetic resin bonded "Bakelite" if of synthetic insulating material is it an Approved Type Yes, if of semi-insulating material are all conducting parts insulated in accordance with 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-pole linked circuit breaker with over current trips in two phases and a reverse power relay

and the switch and fuse gear (or circuit breakers) for each outgoing circuit A triple-pole linked thermal type breaker with over current trips in three phases

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard A.C. - 1 D.C. - 2

ammeters A.C. - 7 D.C. - 2 voltmeters / synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection

Earth Testing, state means provided Earth indicating lamps of metal-filament type of each 10 watts

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

make of fuses Fuji Electric Mfg. Co. Ltd. "Siemens" type Cartridge fuse, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 150% and at what current do the reversed current protective devices operate

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule Yes

Cables, are they insulated and protected as per Rule Yes, if otherwise than as per Rule are they of an Approved Type Yes

state maximum fall of pressure between bus bars and any point under maximum load 3.8V, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets Mechanical clamps

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 Yes, if so, are they adequately protected Yes

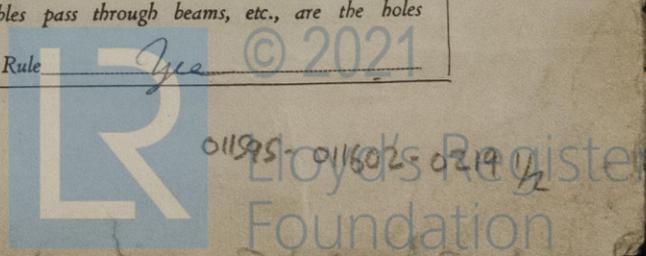
Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes

or of the "HR" type State how the cables are supported or protected Where not exposed to drip or accumulation of water or oil or risk of mechanical damage, are supported by clips or straps

saddles, metal hangers or backing plates and where exposed to them are protected by steel iron plate or heavy gauge screwed conduit

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



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes Emergency Supply, state position Emergency diesel generator in engine room Port. 2nd deck

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 and fitted as per Rule Yes, are they adequately ventilated Yes state battery capacity in ampere hours 200 Ampere Hours

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Yes Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present Yes if so, how are they protected Approved flame proof type fittings and where are the controlling switches fitted Safe position apart about 20 ft Are all fittings suitably ventilated Yes

Searchlight Lamps, No. of 1, whether fixed or portable fixed, are they of the carbon arc or of the filament type filament type

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 — 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

Control Gear and Resistances, and they constructed and fitted as per Rule Yes Lightning Conductors, where required are they fitted as per Rule Yes Ships carrying Oil having a Flash Point 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 Siemens type cartridge fuse Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships Yes Are the cables lead covered as per Rule Yes

E. S. D., if fitted state maker Submarine Signal Co location of transmitter Engine room forward centre and receiver Engine room forward centre

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 PLANT	No. of	MAKER.	RATED AT			PRIME MOVER.		
			Kilowatts net Generator	Volts.	Amperes.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	<u>Siemens Electric Mfg Co Ltd</u>	<u>500 K.W.A</u>	<u>230</u>	<u>1250</u>	<u>1200</u>	<u>Steam turbine</u>	<u>Skid Nipper Ltd. Skjgord</u>
EMERGENCY ROTARY TRANSFORMER	1	<u>DITTD</u>	<u>80 K.W.A</u>	<u>230</u>	<u>200</u>	<u>600</u>	<u>Diesel engine</u>	<u>Skid Engineering Co. Ltd.</u>

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	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	<u>500 K.W.A</u>	<u>5</u>	<u>0.3 sq. in</u>	<u>1250</u>	<u>1300</u>	<u>70</u>	<u>Cambric</u>	<u>Lead alloy sheathed metal braided</u>
" " EXCITER EQUALISER	<u>6 K.W.</u>	<u>1</u>	<u>0.06 "</u>	<u>50.5</u>	<u>60</u>	<u>70</u>	<u>Rubber</u>	<u>"</u>
EMERGENCY GENERATOR	<u>80 K.W.A</u>	<u>1</u>	<u>0.3 sq. in</u>	<u>200</u>	<u>260</u>	<u>30</u>	<u>Cambric</u>	<u>Lead alloy sheathed metal braided</u>
EMERGENCY ROTARY TRANSFORMER: MOTOR	<u>3 K.W.</u>	<u>1</u>	<u>0.03 sq. in</u>	<u>29.3</u>	<u>38</u>	<u>30</u>	<u>Rubber</u>	<u>"</u>
" " GENERATOR								

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or Sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
From switch-board to power panel (P-2)	1	<u>0.06 sq. in</u>	<u>75</u>	<u>91</u>	<u>55</u>	<u>Cambric metal braided</u>
" (P-3)	1	<u>0.06 "</u>	<u>54</u>	<u>91</u>	<u>150</u>	<u>"</u>
" (P-4)	1	<u>0.07 "</u>	<u>13.1</u>	<u>19</u>	<u>150</u>	<u>"</u>
" (P-5)	1	<u>0.2 "</u>	<u>168</u>	<u>200</u>	<u>50</u>	<u>"</u>
" (P-6)	1	<u>0.03 sq. in</u>	<u>50</u>	<u>58</u>	<u>60</u>	<u>"</u>
" (P-7)	1	<u>0.03 "</u>	<u>58</u>	<u>58</u>	<u>150</u>	<u>"</u>
" (P-8)	1	<u>0.1 "</u>	<u>98</u>	<u>128</u>	<u>200</u>	<u>"</u>
" (P-9)	1	<u>0.03 "</u>	<u>17</u>	<u>58</u>	<u>210</u>	<u>"</u>
" (P-10)	1	<u>0.03 "</u>	<u>17</u>	<u>58</u>	<u>230</u>	<u>"</u>
" (P-11)	1	<u>0.0145 "</u>	<u>17</u>	<u>38</u>	<u>430</u>	<u>"</u>
From switch-board to shore connection box (220°)	1	<u>0.3 "</u>	<u>260</u>	<u>100</u>	<u>"</u>	<u>"</u>

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

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.			
Gyro compass w. Pilot	1	<u>30, 0.0145 sq. in</u>	<u>15</u>	<u>30</u>	<u>400</u>	<u>Cambric</u>	<u>steel armoured</u>
Wireless switch board (220°)	1	<u>30, 0.0145 "</u>	<u>20</u>	<u>30</u>	<u>400</u>	<u>"</u>	<u>"</u>
Lighting panel board Navigation light circuit (L-1)	1	<u>30, 0.0145 "</u>	<u>10</u>	<u>27</u>	<u>490</u>	<u>Rubber</u>	<u>"</u>
Lighting panel board (L-2)(L-3)	1	<u>30, 0.1 "</u>	<u>95.4</u>	<u>85</u>	<u>85</u>	<u>"</u>	<u>"</u>
" (L-4)(L-5)	1	<u>30, 0.15 "</u>	<u>89.9</u>	<u>110</u>	<u>400</u>	<u>"</u>	<u>"</u>
" (L-6)	1	<u>30, 0.1 "</u>	<u>40.7</u>	<u>85</u>	<u>550</u>	<u>"</u>	<u>"</u>
" (L-7)(L-8)	1	<u>30, 0.15 "</u>	<u>70.9</u>	<u>110</u>	<u>90</u>	<u>"</u>	<u>"</u>
" (L-9)(L-10)	1	<u>30, 0.15 "</u>	<u>80.5</u>	<u>110</u>	<u>75</u>	<u>"</u>	<u>"</u>
" (L-11)(L-12)(L-13)	1	<u>30, 0.03 "</u>	<u>36.6</u>	<u>38</u>	<u>55</u>	<u>"</u>	<u>metal braided</u>
" (L-14)(L-15)	1	<u>30, 0.06 "</u>	<u>53.1</u>	<u>60</u>	<u>30</u>	<u>"</u>	<u>"</u>
" (L-16)	1	<u>30, 0.03 "</u>	<u>29.6</u>	<u>38</u>	<u>135</u>	<u>"</u>	<u>"</u>
" (L-17)	1	<u>30, 0.03 "</u>	<u>28.3</u>	<u>38</u>	<u>135</u>	<u>"</u>	<u>"</u>
Navigation instruments	1	<u>30, 0.06 "</u>	<u>35</u>	<u>60</u>	<u>450</u>	<u>"</u>	<u>"</u>
Lighting transformer	1	<u>30, 0.1 "</u>	<u>110</u>	<u>128</u>	<u>40</u>	<u>Cambric</u>	<u>steel armoured</u>
Wireless switch board (110°)	1	<u>30, 0.06 "</u>	<u>30</u>	<u>60</u>	<u>490</u>	<u>Rubber</u>	<u>metal braided</u>
Shore connection box (110°)	1	<u>30, 0.03 "</u>	<u>24.0</u>	<u>110</u>	<u>"</u>	<u>"</u>	<u>"</u>

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Main Circulating Pump Motor	1	<u>150</u>	<u>30, 0.2 sq. in</u>	<u>250</u>	<u>200</u>	<u>75</u>	<u>Cambric</u>
Condensate Pump Motor	2	<u>90</u>	<u>30, 0.2 "</u>	<u>220</u>	<u>260</u>	<u>130</u>	<u>"</u>
Lubricating Oil Pump Motor	2	<u>30</u>	<u>30, 0.06 "</u>	<u>77</u>	<u>91</u>	<u>120</u>	<u>"</u>
Ballast Pump Motor	1	<u>30</u>	<u>30, 0.06 "</u>	<u>77</u>	<u>91</u>	<u>140</u>	<u>"</u>
Steering Gear Motor	2	<u>20</u>	<u>30, 0.03 "</u>	<u>55</u>	<u>58</u>	<u>180</u>	<u>"</u>
Main Condensate Pump Motor	2	<u>15</u>	<u>30, 0.03 "</u>	<u>42</u>	<u>58</u>	<u>85</u>	<u>"</u>
Fuel Oil Transfer Pump Motor	2	<u>15</u>	<u>30, 0.03 "</u>	<u>42</u>	<u>58</u>	<u>75</u>	<u>"</u>
Fuel Oil Service Pump Motor	2	<u>5</u>	<u>30, 0.07 "</u>	<u>15</u>	<u>19</u>	<u>140</u>	<u>"</u>
Drain Transfer Pump Motor	2	<u>4 1/2</u>	<u>30, 0.07 "</u>	<u>13.5</u>	<u>19</u>	<u>40</u>	<u>"</u>
Generator Turbine Circulating Pump M.	2	<u>20</u>	<u>30, 0.03 "</u>	<u>55</u>	<u>58</u>	<u>20</u>	<u>"</u>
" Condensate Pump Motor	2	<u>5</u>	<u>30, 0.07 "</u>	<u>15</u>	<u>19</u>	<u>35</u>	<u>"</u>
Brine Pump Motor for Evaporator	2	<u>5</u>	<u>30, 0.07 "</u>	<u>15</u>	<u>19</u>	<u>110</u>	<u>"</u>
Fuel Pump Motor	2	<u>2 1/2</u>	<u>30, 0.045 "</u>	<u>8</u>	<u>14</u>	<u>120</u>	<u>"</u>
Ventilating Fan Motor	2	<u>5</u>	<u>30, 0.07 "</u>	<u>15</u>	<u>19</u>	<u>145</u>	<u>"</u>
"	2	<u>3 1/2</u>	<u>30, 0.07 "</u>	<u>10</u>	<u>19</u>	<u>150</u>	<u>"</u>

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.

J. Flattory

Electrical Contractors.

Date *May 27th 1953*

COMPASSES.

Have the compasses been adjusted under working conditions *Yes*

G. Izaki

Builder's Signature.

Date *May 27th 1953*

Have the foregoing descriptions and schedules been verified and found correct *Yes*

Is this installation a duplicate of a previous case *No* If so, state name of vessel

Plans. Are approved plans forwarded herewith *No* If not, state date of approval *Nov. 10th 1952*

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

General Remarks. (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electric equipment of this vessel has been constructed and installed under the supervision of the Society's Surveyors in accordance with the Rules and the approved plans.

The workmanship and materials have been found satisfactory.

The equipment has been examined under working condition and insulation tested according to Rules.

It is advised that the electric equipment of this vessel is eligible to be classed with this Society with the notation +LMC 5.5.

Total Capacity of Generators *864* Kilowatts.

The amount of Fee ... *£290,400* : When applied for, *19-6-1953*

Travelling Expenses (if any) £ : : When received, *19*

Brown

Surveyor to Lloyd's Register of Shipping.

Stodolnik

FRIDAY 24 JUL 1953

Committee's Minute

Assigned *See F.E. mshy. rpt.*