

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

7 JUN 1949

Date of writing Report 2nd Feb. 1949 When handed in at Local Office 1949 Port of San Francisco and Seattle
 No. in Survey held at Portland, Oregon Date, First Survey 17 June 1948 Last Survey 29th Jan. 1949
 Reg. Book. (Number of Visits 14)
 Not on the M.V. "NELLY" ex "Long Island" ex "Mormacmail" Tons { Gross 7886
 previously entered Net 4682
 Built at Chester, Pa. By whom built Sun S.B. & D.D. Co. Yard No. - When built 1940
 Owners Caribbean Land & Shipping Corpn. Port belonging to Panama
 Electric Light Installation fitted by Builders Contract No. - When fitted 1940
 Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution 3 wire (neutral wire grounded)

Pressure of supply for Lighting 120 volts. Heating 240 volts. Power 240 volts.

Direct or Alternating Current, Lighting Direct Power Direct

If alternating current system, state frequency of periods per second -

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding temperature rise A.I.E.E. Standards are they compound wound Yes

are they over compounded 5 per cent. Yes if not compound wound state distance between each generator -

Where more than one generator is fitted are they arranged to run in parallel Yes is an adjustable regulating resistance fitted in

series with each shunt field Yes Have certificates of test results for machines under 100 kw. been submitted and

approved by A.B. of Shipping Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -

Are all terminals accessible, clearly marked, and furnished with sockets Yes are they so spaced or shielded that they cannot be accidentally earthed,

short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule A.I.E.E. Standards

Position of Generators Star. For'd inboard; Star. for'd outboard; Star. aft on E.R. floor level is the ventilation

in way of the generators satisfactory Yes are they clear of all inflammable material Yes if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the generators - and -

are the generators protected from mechanical injury and damage from water, steam or oil Yes are their axes of rotation fore and aft Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generators

in metallic contact Yes Main Switch Boards, where placed On E.R. flat above generators

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard -

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes are they protected from mechanical

injury and damage from water, steam or oil Yes if situated near unprotected woodwork or other combustible material, state distance of same

horizontally from or vertically above the switchboards - and - are they constructed wholly of durable, non-ignitable non-absorbent

materials Yes is all insulation of high dielectric strength and of permanently high insulation resistance Yes

is it of an approved type A.I.E.E. Standards if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other

non-hygroscopic insulating material, and the slab similarly insulated from its framework - is the non-hygroscopic insulating material of an approved

type - and is the frame effectively earthed - Are the fittings as per Rule regarding:—spacing or shielding of live parts

Yes accessibility of all parts Yes absence of fuses on back of board Yes temperature rise of

omnibus bars Yes individual fuses to voltmeter, pilot or earth lamp Yes are moving parts of switches alive in the

"off" position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of

switches No Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

Two pole linked circuit breaker with overload and reverse current protector in each outer

conductor for each generator. Two pole circuit breakers each outgoing circuit and 3 pole

for lighting circuits. Are turbine driven generators fitted with emergency trip switch as per rule - Are cupboards or compartments containing switchboards composed of

fire-resisting material Yes Instruments on main switchboard 6 ammeters 3 volt-

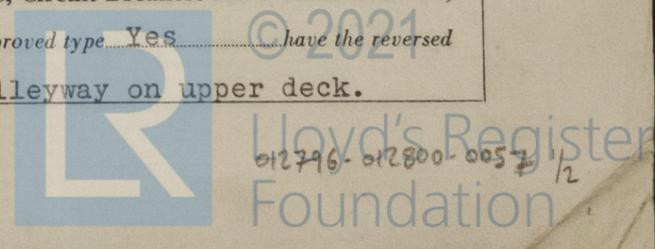
meters - synchronizing device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equalizer connection

Yes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

Earth lights and automatic alarms Switches, Circuit Breakers and Fusible Cut-outs,

do these comply with the requirements of the Rules A.I.E.E. Standards are the fusible cutouts of an approved type Yes have the reversed

Emergency stop button for O.F. transfer pump located in E.R. alleyway on upper deck.



current protection devices been tested under working conditions Yes **Joint Boxes, Section and Distribution Boards, is the**

construction, protection, insulation, material, and position of these as per rule A.I.E.E. Standards

All power cables single core A.I.E.E. Standards
 Cables: Single, twin, concentric, or multicore are the cables insulated and protected as per Tables IV, V, X or XI of the Rules

If the cables are insulated otherwise than as per Rule, are they of an approved type — **Fall of Pressure, state maximum between bus bars and**

any point of the installation under maximum load No voltage drop **Cable Sockets, are the ends of all cables having a sectional**

area of 0.04 square inch and above provided with soldering sockets Yes **Paper Insulated and Varnished Cambric Insulated Cables.**

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed

with insulating compound — or waterproof insulating tape Yes **Cable Runs, are the cables fixed as far as possible in accessible positions**

not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of

mechanical damage Yes **Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit** covered

Support and Protection of Cables, state how the cables are supported and protected cables supported on race way metal

hangers

If cables are run in wood casings, are the casings and caps secured by screws — are the cap screws of brass — are the cables run in

separate grooves — If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table XI Yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements. Yes

Joints in Cables, state if any, and how made, insulated, and protected No joints in cables

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands

Yes **Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the**

holes efficiently bushed — state the material of which the bushes are made —

Earthing Connections, state what earthing connections are fitted and their respective sectional areas All machines and fittings

connected to earth and sectional covers of conductors adequate

are their connections made as per Rule A.I.E.E. Standards

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule. Yes **Emergency Supply, state**

position and method of control of the emergency supply and how the generator is driven Emergency lighting in E.R. supplied

from automatic starting emergency Diesel generator.

Navigation Lamps, are these separately wired Yes **controlled by separate switch and separate fuses.** Yes **are the fuses double pole.** Yes

are the switches and fuses grouped in a position accessible only to the officers on watch. Yes

has each navigation lamp an automatic indicator as per Rule. Yes **Secondary Batteries, are they constructed and fitted as per Rule.** A.I.E.E.

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

are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected Heavy steel

guards over all fittings in cargo compartments

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected. —

how are the cables led

where are the controlling switches situated. —

are all fittings suitably ventilated. Yes **are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials.** Yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule. A.I.E.E. Standards **are air heaters constructed and fitted as per Rule.** A.I.E.E. Standards

Searchlight Lamps, No. of One **whether fixed or portable.** fixed **are their fittings as per Rule.** A.I.E.E. Standards

Arc Lamps, other than searchlight lamps. No. of — **are their live parts insulated from the frame or case.** — **are their fittings as per Rule.** —

Motors, are their working parts readily accessible. Yes **are the coils self-contained and readily removable for replacement.** Yes

are the brushes, brush holders, terminals and lubricating arrangements as per Rule. A.I.E.E. Standards **are the motors placed in well-ventilated compartments in which**

inflammable gases cannot accumulate and clear of all inflammable material. Yes **are they protected from mechanical injury and damage from**

water, steam or oil. Yes **are their axes of rotation fore and aft or vertical.** Yes **situated near unprotected woodwork or other combustible**

material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type. Yes

if not of this type, state distance of the combustible material horizontally or vertically above the motors. — **and**

have machines of over 100 BPH been inspected by the Surveyors during manufacture and testing. A.B. of Shipping

field and motor speed regulators, starters and controllers constructed and fitted as per Rule. A.I.E.E. Standards **Lightning Conductors, where lightning conductors**

are required, are these fitted as per Rule. Not required **Ships carrying Oil having a Flash Point less than 150°F. Have the special requirements of**

the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables,

lights and fittings. — **are all fuses of the filled cartridge type.** — **are they of an approved type.** —

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office. —

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule. Yes

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	275	120/240	1140	450	Diesel Engines	Light Diesel	Above 150°F.
AUXILIARY	2	300	120/240	400	—	—	—	—
EMERGENCY	1	100	120/240	417	900	" "	" "	" "
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
	No. per Pole.	Total Nominal Area per Pole	No.	Diameter.	In Circuit.	A.I.E.E.			
MAIN GENERATOR	2	2,000,000			1140	1728	100' Average	Var. Camb.	Lead & Armor
EQUALISER CONNECTIONS	"	"			"	"	"	"	"
AUXILIARY GENERATOR	1	800,000			417	737	218'	"	"
EMERGENCY GENERATOR	1	500,000			100	529	109'	"	"
ROTARY TRANSFORMER (GENERATOR)									
ENGINE ROOM Power Panels	2	800,000			100	1474	150'	"	Armor
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Vent Panel Quarters	1	52,600			90	88	200'	"	Lead & Armor
Work Shop	1	14,000			40	41	60'	"	Armor
Control Panel Fwd.	2	800,000			800	1474	100'	"	Lead & Armor
" " Port	2	800,000			800	1474	250'	"	"
" " Stbd.	2	800,000			800	1474	200'	"	"
" " Refr.	2	450,000			226	403	300'	"	"
Galley Power Panel	1	250,000			275	333		"	"
ACCOMMODATION Pantry	1	52,600			30	117		"	"
Upper Deck	1	105,000			100	135	66'	"	Armor
Cabin Deck	1	125,000			70	158	76'	"	"
Boat Deck	1	75,000			40	117	88'	"	"
Engine Room	1	133,000			125	158	60'	"	"
WIRELESS	1	40,000			30	75	170'	"	"
SEARCHLIGHT	1	9,016			10	22	250'	"	"
MASTHEAD LIGHT	1	4,000			1/2	15	294'	"	"
SIDE LIGHTS	1	4,000			1	—	40'	"	"
COMPASS LIGHTS	1	4,000			1/2	—	38'	"	"
POOP LIGHTS	1	4,000			1/2	—	348'	"	"
CARGO LIGHTS	1	4,000			3 1/2	—		"	"
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
		No. per Pole.	Total Nominal Area per Pole	No.	Diameter.	In Circuit.	A.I.E.E.			
BALLAST PUMP	1	1	52,600			56	88	220	Var. Camb.	Lead & Armor
MAIN BILGE LINE PUMPS	1	1	52,600			56	88	220	"	"
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP	1	1	168,000			181	256	140'	"	"
SANITARY PUMP & Fire Comb.	1	1	168,000			181	256	140'	"	"
CIRC. SEA WATER PUMPS (Each)	3	1	168,000			"	256	140' Av.	"	"
CIRC. FRESH WATER PUMPS	3	1	168,000			"	256		"	"
AIR COMPRESSORS (Each)	2	1	350,000			320	417	110'	"	"
FRESH WATER PUMP	2	1	4,100			2	15	10'	"	Armor
ENGINE TURNING GEAR (Each)	4	1	4,100			6	15	150' Av.	"	Lead & Armor
Red. Gr. Turning GEAR	1	1	16,500			28	41	90	"	"
LUBRICATING OIL PUMPS	3	1	250,000			261	333	140' Av.	"	"
OIL FUEL TRANSFER PUMP	1	1	168,000			146	185	120'	"	"
WINDLASS	1	1	350,000			280	417	480'	"	"
2 Panels Each	4	2	450,000			736	986	480'	"	Armor
WINCHES, FORWARD	2	1	400,000			368	493	340'	"	"
WINCHES, AFT	4	2	400,000			736	1130	560'	"	"
Capstan	2	1	500,000			368	565	218	"	"
STEERING GEAR—	1	1	212,000			150	299	560	"	Lead & Armor
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	2	1	400,000			181	456	500'	"	"
WORKSHOP MOTOR										
VENTILATING FANS										
Each Cargo Winch	1	1	212,000			200	299		"	"

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass 60 ft.

Distance between electric generators or motors and steering compass 50 ft.

The nearest cables to the compasses are as follows:—

A cable carrying .1 Ampères in ~~your~~ standard compass 10 feet from steering compass.

A cable carrying - Ampères - feet from standard compass - feet from steering compass.

A cable carrying - Ampères - feet from standard compass - feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power. Yes

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted. Yes

The maximum deviation due to electric currents was found to be 0 degrees on steady course in the case of the standard

compass, and 0 degrees on - course in the case of the steering compass.

Builder's Signature.

Date

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

General Remarks (State quality of workmanship, opinions as to class, &c. The electrical installation of this vessel was made and installed to comply with the Rules of the American Bureau of Shipping, the Institute of Electrical Engineers in America and the United States Navy.

The installation has now been examined, tested as required by the Rules, tried under full working conditions and found in satisfactory condition and may, in our opinion, be favorably considered by the Committee for Classification with Lloyd's Register of Shipping.

Noted and 20/7/49

Total Capacity of Generators AUX. 725 Kilowatts. EMERG. 100

The amount of Fee ... £ : : When applied for, 19. Traveling Expenses (if any) £ : : When received, 19.

E. H. Marlborough Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK MAY 18 1949

Assigned Elec. light.

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