

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report Feb. 26th 1953 When handed in at Local Office _____ 19____ Port of Quincy, Mass.

No. in Survey held at Quincy, Mass. Date, First Survey Dec. 19th 52. Last Survey Mar. 4th 1953.
Reg. Book. _____ (No. of Visits cont.) _____

_____ on the steel screw steamer "CHRYSSI" Tons { Gross 18,732
Net 11,652

Built at Quincy, Mass. By whom built Bethlehem Steel Co. Yard No. 1630 When built 1953.

Owners Santander Compania Naviera SA Port belonging to Panama, Republic of Panama.

Installation fitted by Bethlehem Steel Co. Quincy, Mass. When fitted 1953

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 Three phase, three wire for power & lighting feeders. Two wire single phase for lighting branch circuits. Voltage of Lighting 117

Heating 230 Power 450 D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60 cycles

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 Yes. 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~~ ^{exciter} field regulators provided Yes. Is the compound winding connected to the negative or positive pole Yes, 60 A.I.E.E. standards

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

Position of Generators after end of engine room on 20'-6" flat. 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 staid. side 20'-6" flat. at after end of engine room.

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 Dead front, grounded., if of synthetic insulating material is it an Approved Type -, 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 The pole circuit breaker with overload and reverse power trips.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Two & three pole (thermal overload and magnetic short circuit) circuit breakers.

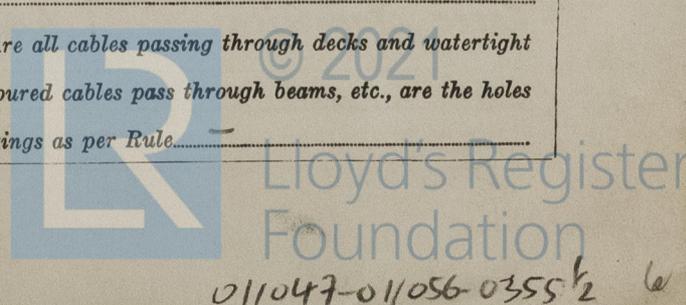
Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes. Instruments on main switchboard 2. ammeters 2 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection -. Earth Testing, state means provided ground detecting lamps

Switches, Circuit Breakers and Fuses, are they as per Rule A.I.E.E. standards, are the fuses an Approved Type -, make of fuses standard NEC Fuses, are all fuses labelled Yes. If circuit breakers are provided for the generators, at what overload do they operate 825 amps., and at what current do the reversed ^{Power} current protective devices operate 20 KW.

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule A.I.E.E. standards

Cables, are they insulated and protected as per Rule A.I.E.E. standards, 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 -, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets Yes. 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 -. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes. or run in conduit - or of the "HR" type -. State how the cables are supported or protected in brass pipe on fore and aft walkway, clipped to joiner work in quarters & on steel hangers in machinery spaces

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 effectually bushed -. Refrigerated chambers, are the cables and fittings as per Rule -



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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. Emergency generator and switchboard are situated at the after end of engine room, starboard side.

Navigation Lamps, are they separately wired. Yes. controlled by separate double pole switches and fuses. A.I.E.E. standards. 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. -. are they adequately ventilated. -. state battery capacity in 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. No.

if so, how are they protected. Pump room lighted by fittings located & wired in engine room.

and where are the controlling switches fitted. -. 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.

Heating and Cooking, is the general construction as per Rule. A.I.E.E. standards, 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. A.I.E.E. standards.

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. A.I.E.E. standards.

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule. A.I.E.E. standards.

Control Gear and Resistances, are they constructed and fitted as per Rule. A.I.E.E. standards. Lightning Conductors, where required are they fitted as per Rule. -. 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. A.I.E.E. standards, are all fuses of an Approved Cartridge Type. Yes, make of fuse. Standard N.E.C.. 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. Bludworth. location of transmitter. at frame 49 1/2 starboard. and receiver. frame 49 1/2 port.

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.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2		400	450	641	1200	Turbine	Westinghouse
EMERGENCY ROTARY TRANSFORMER	1		45	450	120	1200	Diesel	Cummings Diesel

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 of No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	A.I.E.E. Rule.			
MAIN GENERATOR	400	3	7068	641	837	66	V.C.	Lead & basket weave arm.
" " EQUALISER								
EMERGENCY GENERATOR	45	1	1045	120	158	50		
ROTARY TRANSFORMER: MOTOR	7.5	1	0051	10.5	22	70		do.
" " GENERATOR	5	1	0206	41	55.5	66		

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

DESCRIPTION.	No.	Sectional Area of No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Main switchboard to fwd. switchboard	1	1045	57.6	158	850	
" " " Emergency " P.O.1.	1	1045	31.6	158	40	
Emerg. " " fwd. " E.P.O.1.	1	0206	12.9	55.5	820	
Machine shop panel P.45.	1	0130	22.9	41	40	
Boiler room panel P.43.	1	0051	1.71	22	150	
Galley power " P.44.	1	0524	44.3	99	210	
After quarters vent. panel P.46.	1	0130	18.3	41	90	
Machinery space P.47.	1	0521	59	99	240	
Shore connection P.O.4.	1	1659	200	217	300	

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area of No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	A.I.E.E. Rule.			
Upper deck lighting	42	1045	52.4	158	160	V.C.	Lead & basket weave armoured.
Roop " "	43	0521	44.7	99	180	"	
Engine room "	44	0521	45.7	99	30		
Boiler " "	45	0521	30.0	99	210		
Midship " "	4101.	0521	55.8	99	110		
Forecastle " "	4102.	0206	5.2	55.5	420		
After quarters emerg. lighting EL.1.	1	0130	11.7	41	150		
Engine room " " EL.2	1	0051	13.0	22	30		
" " + Boiler room " " EL.3.	1	0051	8.4	22	200		do.
Radar EL.102.	1	0130	12.0	41	80		
Navigation light panel EL.101.	1	0082	2.6	30	90		
Radio E.P.101.	1	0051	4.4	22	110		
Echo sounder E.S.	1	0051	3.5	22	-		
Lighting transformers	1	0206	49.7	55.5	50		
3 galley ranges (each)	1	0521	69.8	99	40		
After pump room lighting L.1.	1	0130	5.2	41	-		
Midship emerg. lighting EL.104	1	0206	20.9	55.5	90		
Masthead light	1	0032	5.2	11.5	360	R.I.	
Side lights	1	0032	5.2	11.5	70	R.I.	
Cargo lighting fwd. L.103	1	0082	10.4	30	360		
Fwd. pump room L.104.	1	0130	2.6	41	410	V.C.	
Cargo lighting aft. L.105.	1	0051	5.2	22	-		
Electric whistle control W.	1	0051	1.0	22	-		
Emergency gen. heaters E.L.4.	1	0051	4.3	22	50		

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Sectional Area of No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Main cond. cir. pump	1	125	1659	155	217	310	
P & S forced draught blower (each)	2	83	1659	100	217	240	
Fire & gen. service pump	1	50	0521	59.5	99	200	
Fuel oil transfer "	1	30	0521	39	99	330	
Fd. & aft. lub. oil service " (each)	2	25	0206	31	55.5	90	
Air compressor	1	25	0206	31	55.5	260	
Ind. & outd. main condensate (each)	2	20	0130	25	41	290	
Remes. cab. cond. circ. pump	1	20	0130	25	41	270	
Fd. & aft. water service pumps (each)	2	15	0130	20	41	250	
Ind. & outd. fuel oil service " (each)	2	15	0130	20	41	360	
Bilge & ballast pumps	1	15	0130	20	41	310	
Fd. & aft. aux. cond. circ. pumps (ea)	2	10	0051	13	22	120	
" " " " condensate " (each)	2	10	0051	13	22	120	
Ind. & outd. condensate drain (each)	2	7.5	0051	10	22	260	
Sanitary pump	1	7.5	0051	10	22	240	
Refrig. compressors (each)	2	10	0051	13	22	100	
Turning gear	1	7.5	0051	10	22	140	
Comb. cont. air compressor	1	3	0051	7	22	270	
Distiller cond. pumps (each)	2	3	0051	4.5	22	150	
Fd. & aft. brine over'd. disch. (ea)	2	3	0051	4.5	22	140	
" " " wash water pumps (ea)	2	3	0051	4.5	22	120	
Potable water pumps	2	2	0051	3	22	100	
Fd. & aft. lub. oil purifier (each)	2	2	0051	3	22	120	
Ind. & outd. priming pumps (ea)	2	1.5	0051	2	22	300	
Stana exhauster	1	1	0051	1.6	22	160	
P & S steering gear	2	50	0521	64	99	270	
Shaper	1	7.5	0051	10	22	70	
Lathe	1	5	0051	7	22	60	
Grinder	1	3	0051	4.5	22	70	
Drill press	1	1	0051	1.6	22	110	
Eng. rm & boiler rm. supply fans (ea)	4	7.5	0051	10	22	200	
Eng. rm exhaust fans (each)	2	5	0051	7	22	200	
Misc. vent fans	-	Various	0051	7	22	200	

A. I. E. E.

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.

M. J. Sullivan

Electrical Contractors.

Date *Mar 10, 1953*

COMPASSES.

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

M. J. Sullivan

Builder's Signature.

Date *Mar 10, 1953*

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. *Failaika*

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. *Maker's letter*

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

The electrical equipment of this ship has been installed under Special Survey in accordance with the approved plans.

The materials and workmanship are good and the installation has been examined under full working conditions, tested as per rule and found satisfactory, in my opinion is such as could be accepted for a vessel classed with this Society.

Total Capacity of Generators..... *875.* Kilowatts.

The amount of Fee ... *\$600 -*

TESTING GENERATORS (PITTS' L) *100.*

When applied for, *26.3 1953*

When received, *19*

Travelling Expenses (if any) £ *✓*

W. P. Stulness
Surveyor to Lloyd's Register of Shipping.

Committee's Minute..... *NEW YORK MAR 25 1953*

Assigned..... *Elec. light*

2m. 8.46.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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