

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report Aug. 11th 1953 When handed in at Local Office 1953 Port of NEW YORK
 No. in Survey held at Quincy, Mass. Date, First Survey April 20th Last Survey Aug. 11th 1952
 Reg. Book. (No. of Visits cont.)

on the steel screw steamer "ANDROS HILLS." Tons { Gross 18,735
 Net 11,603
 Built at Quincy, Mass. By whom built Bethlehem Steel Co. Yard No. 1632 When built 1953
 Owners Rio Venturado Compania Nav. S.A. Port belonging to Panama, R. P.
 Installation fitted by Bethlehem Steel Co. 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 3 phase, 3 wire, for power & lighting feeders
 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
2 wire, single phase, for lighting branch circuits

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 Exciter Yes are ~~exciter~~ field regulators provided Yes Is the compound winding connected to the negative or positive pole Yes, to A.I.E.E. standards

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing A 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 star'd 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 Three pole circuit breaker, with overload and reverse power trips

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Two and 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 Two ammeters Two voltmeters One 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 std. N.E.C. 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 ~~current~~ ^{power} protective devices operate 20 k.W.

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 deck and after deck walkway, clipped to joiner work in quarters and 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 effectively bushed - Refrigerated chambers, are the cables and fittings as per Rule -

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes Emergency Supply, state position Emergency generator & switchboard situated at after end of engine room starboard side

Navigation Lamps, are they separately wired Yes controlled by separate double pole switches and fuses R.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 in engine room

and where are the controlling switches fitted situated in engineers alleyway Are all fittings suitably ventilated Yes

Searchlight Lamps, No. of one, 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 R.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 R.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 R.I.E.E. stds:

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

Control Gear and Resistances, are they constructed and fitted as per Rule R.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 R.I.E.E. stds: are all fuses of an Approved Cartridge Type Yes, make of fuse standard M.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	Turline	Westinghouse
EMERGENCY ...	1.		75	450	120	1200	Diesel	Cummings Diesel
ROTARY TRANSFORMER								

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 ...	400	3	7068	641	837	66	V.C.	Lead & basket weave armoured.
" " EQUALISER ...								
EMERGENCY GENERATOR ...	75	1	1045	120	158	50		
ROTARY TRANSFORMER: MOTOR ...	7.5	1	0051	10.5	22	70		
" " GENERATOR ...	5	1	0206	41.0	55.5	66		

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

DESCRIPTION.								
Main switchboard to fwd. switchboard	1	1045	57.6	158	850			
" " " Emergency " P.O.I.	1	1045	31.6	158	40			
Emergency " " fwd " E.P.O.I.	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	1.7	22	150		
Galley power panel	P.44	1	0525	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.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.				
Upper deck lighting	L.2	1	1045	52.4	158	160	V.C.	Lead & basket weave armoured
Peep " "	L.3	1	0521	44.7	99	180		
Engine room "	L.4	1	0521	45.7	99	30		
Boiler room "	L.5	1	0521	30.0	99	210		
Midship " "	L.101	1	0521	55.8	99	110		
Forecastle " "	L.102	1	0206	5.2	55.5	420		
After quarters emergency lighting	E.L.1	1	0130	11.7	41	150		
Engine room " "	E.L.2	1	0051	13.8	22	30		
" " & Boiler room " "	E.L.3	1	0051	8.4	22	200		
Radar	E.L.102	1	0130	12.0	41	80		
Navigation light panel	E.L.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		
Three galley ranges (each)		1	0521	69.8	99	40		
After pump room lighting	L.1	1	0130	5.2	41	-		
Midship emergency " "	E.L.104	1	0206	20.9	55.5	90		
Masterhead light		1	0032	5.2	11.5	360		
Side lights		1	0032	5.2	11.5	70		
Cargo lighting fwd.	L.103	1	0082	10.4	41	360	R.I.	
Fwd pump room	L.104	1	0130	2.6	30	410	R.I.	
Cargo lighting aft.	L.105	1	0051	5.2	22	-		
Electric whistle control	W	1	0051	1.0	22	-	V.C.	
Emergency generator heaters	E.L.4	1	0051	4.3	22	50		

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Main cond. circ. pump	1	125	1	1659	155	217	310	
P & 3 forced draught blowers (ea)	2	83	1	1659	100	217	240	
Fire & gen. service pump	1	50	1	0521	59.5	99	200	
Fuel oil transfer pump	1	30	1	0521	39	99	330	
Fd. & aft. lub. oil service pump (ea)	2	25	1	0206	31	55.5	90	
Air compressor	1	25	1	0206	31	55.5	260	
Inid & outd. main condensate (ea)	2	20	1	0130	25	41	290	
Atmos. ex. cond. circ. pump	1	20	1	0130	25	41	270	
Fd. & aft. water service pumps (ea)	2	15	1	0130	20	41	250	
Inid & outd. fuel oil service " (ea)	2	15	1	0130	20	41	360	
Bilge & ballast pumps	1	15	1	0130	20	41	310	
Fwd & aft. aux. cond. circ. pumps (ea)	2	10	1	0051	13	22	120	
" " " condensate " (ea)	2	10	1	0051	13	22	120	
Inid & outd. condensate drain - (ea)	2	7.5	1	0051	10	22	260	
Sanitary pump	1	7.5	1	0051	10	22	240	
Refrigerator compressors	1	10	1	0051	13	22	100	
Turning gear	1	7.5	1	0051	10	22	140	
Comb. cond. air compressor	1	3	1	0051	7	22	270	
Distiller cond. pumps (ea)	2	3	1	0051	4.5	22	150	
Fd. & aft. brine over'd dist. (ea)	2	3	1	0051	4.5	22	140	
" " " wash water pumps (ea)	2	3	1	0051	4.5	22	120	
Potable water pumps (ea)	2	2	1	0051	3	22	100	
Fd. & aft. lub. oil purifier (ea)	2	2	1	0051	3	22	280	
Inid & outd. priming pumps (ea)	2	1.5	1	0051	2	22	300	
Gland exhaustor	1	1	1	0051	1.6	22	160	
P & S. steering gear	2	50	1	0521	64	99	270	
Shaper	1	7.5	1	0051	10	22	70	
Lathe	1	5	1	0051	7	22	60	
Grinder	1	3	1	0051	4.5	22	70	
Drill press	1	1	1	0051	1.6	22	110	
Eng. & Br. room supply fans (ea)	4	7.5	1	0051	10	22	200	
Engine room exhaust fans (ea)	2	5	1	0051	7	22	200	
Misc. vent. fans	-	Various	1	0051	7	22	200	

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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.

A.I.E.E.

Electrical Contractors.

Date Aug. 12th 1953.

COMPASSES.

Have the compasses been adjusted under working conditions. Yes.

Builder's Signature.

Date Aug. 12th 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. S/S CHRYSSI.

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. Makers letter.

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

The electrical equipment of this vessel, 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 requirements and found satisfactory.

In my opinion is such as could be accepted for a vessel, classed with this Society.

Noted Ent 23/9/53

Total Capacity of Generators. 875. Kilowatts.

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

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned Elec. light.

NEW YORK AUG 26 1953



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