

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report May 7th 1953 When handed in at Local Office 1953 Port of NEW YORK
 No. in Survey held at Quincy, Mass. Date, First Survey Feb. 10th Last Survey May 6th 1953
 Reg. Book. (No. of Visits cont.)

on the steel screw steamer "ANDROS ISLAND" Tons { Gross 18,735
 Net 11,652
 Built at Quincy, Mass. By whom built Bethlehem Steel Co. Yard No. 1631 When built 1953
 Owners Rio Venturado Compania Nav. 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. Yes Radgr Yes

Plans, have they been submitted and approved Yes System of Distribution 3 phase, 3 wire for power + lighting feeders
 Voltage of Lighting 117
 Cooking 230 Power 450 D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60 cycles
 Heating 230

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 ~~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 —. Have certificates of test for machines under 100 kw. been supplied — 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 & 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~~ power do the reversed current protective devices operate 20 kW.

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

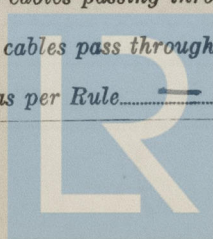
Cables, are they insulated and protected as per Rule A.I.E.E. standards, if otherwise than as per Rule are they of an Approved Type —, state maximum fall of pressure between bus bars and any point under maximum load within rule requirements, are the ends of all cables having a sectional area of 0.01 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 & after 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 effectively bushed —. Refrigerated chambers, are the cables and fittings as per Rule —.

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Lloyd's Register
Foundation

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule yes Emergency Supply, state position after end of engine room on 32'-6" flat, star'd 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 main board 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 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. stand. 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 - 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 std. NEC fuses 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 star'd and receiver at 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 ...	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 Foil.	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	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			
" " " Emerg. " P.O.1	1	1045	31.6	158	40			
Emergency " " 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	1.7	22	150		
Galley power "	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.04	1	1659	200	217	300		

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

DESCRIPTION.	No. in Parallel per Foil.	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.	Rule.			
Upper deck Lighting	L2	1	1045	52.4	158	160	V.C.	Lead & basket weave armoured.
Pop " "	L3	1	0521	44.7	99	180		
Engine room "	L4	1	0521	45.7	99	30		
Boiler room "	L.5	1	0521	30.0	99	210		
Midship "	L101	1	0521	55.8	99	110		
Forecastle "	L.102	1	0206	5.2	55.5	420		
After quarters, Emergency Lighting	EL1	1	0130	11.7	41	150		
Eng. room "	EL2	1	0051	13.0	22	30		
" " & boiler room " "	EL3	1	0051	8.4	22	200		
Radar.	EL102	1	0130	12.0	41	80		
Navigation Light panel	EL101	1	0082	2.6	30	90		
Radio	E.P.01	1	0051	4.4	22	110		- do -
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	L1	1	0130	5.2	41	-		
Amidship emerg. "	E.L.104	1	0206	20.9	55.5	90		
Masterhead light		1	0032	5.2	11.5	360	R.I.	
Side lights		1	0032	5.2	11.5	70	R.I.	
Cargo lighting fwd	L103	1	0082	10.4	30	360		
Fwd pump room	L104	1	0130	2.6	41	410		
Cargo Lighting aft	L105	1	0051	5.2	22	-		
Electric whistle control	W	1	0051	1.0	22	-		
Emergency generator heater	E.L.A	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	V.C. Lead & basket weave armoured.
Fg & forced draught blowers	2	83	1	1659	100	217	240	
Fire & general 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 pump	2	25	1	0206	31	55.5	90	
Air compressor	1	25	1	0206	31	55.5	260	
Inbd. & outbd. main condensate	2	20	1	0130	25	41	290	
Atemos. ex. cond. circ. pump	2	20	1	0130	25	41	270	
Fd. & aft water service pumps	1	15	1	0130	20	41	250	
Inbd. & outbd. fuel oil service pumps	2	15	1	0130	20	41	360	
Bridge & ballast pump	1	15	1	0130	20	41	310	
Fd & aft aux. cond. circ. pumps	2	10	1	0051	13	22	120	
" " " " condensate "	2	10	1	0051	13	22	120	
Inbd. & outbd. condensate drain "	2	7.5	1	0051	10	22	260	
Sanitary pump.	1	7.5	1	0051	10	22	140	
Refrig. compressors	2	10	1	0051	13	22	100	
Turning gear	1	7.5	1	0051	10	22	140	- do -
Comb. cont. air compressor	1	3	1	0051	7	22	270	
Distiller condensate pumps	2	3	1	0051	4.5	22	150	
Fd & aft brine overbd. discharge..	2	3	1	0051	4.5	22	140	
" " Wash water pumps	2	3	1	0051	4.5	22	120	
Potable water pumps	2	2	1	0051	3	22	100	
Fd. & aft lub. oil purifier's	2	2	1	0051	3	22	120	
Inbd. & outbd. priming pumps.	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. & boiler rm. supply fans.	4	7.5	1	0051	10	22	200	
Eng. room exhaust fans.	2	5	1	0051	7	22	200	
Misc. vent. fans.	- Various	1	0051	7	22	200		

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 May 7th 1953

COMPASSES.

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

M. J. Sullivan Builder's Signature.

Date May 7th 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 N.Y.K. 52229.

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 built & installed under special survey in accordance with approved plans.

The materials and workmanship are good & 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.

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

Total Capacity of Generators 875 Kilowatts.

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

19

When received,

19

Travelling Expenses (if any) £ : :

W. S. Holmes
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK MAY 20 1953

Assigned

Electric light.