

Rpt. 13.

No. 32593

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

MAR 13 1939
MAR 17 1939

Date of writing Report 14th Mar, 1939 When handed in at Local Office 10 MAR 1939 Port of Sunderland

No. in Survey held at Sunderland and Newcastle Date, First Survey 13th Dec, 1938 Last Survey 3rd March, 1939
Reg. Book. Suppt. newcastle (Number of Visits 2)

90021 on the S.S. "SILVERLAUREL" Tons { Gross 4112
Net 3817

Built at Sunderland By whom built J. Thompson & Co. Ltd. Yard No. 588 When built 1939

Owners Silver Line Ltd Port belonging to London

Electrical Installation fitted by The Sunderland Eng. Co. Ltd Contract No. 588 When fitted 1939

Is vessel fitted for carrying Petroleum in bulk no Is vessel equipped with D.F. yes E.S.D. yes Gy.C. no Sub.Sig. no

Have plans been submitted and approved yes System of Distribution double wire Voltage of supply for Lighting 110

Heating 110 Power 220 Direct or Alternating Current, Lighting Direct Power Direct If Alternating Current state frequency — Prime Movers,

has the governing been tested and found efficient when the whole load is suddenly thrown on and off yes Are turbine emergency governors fitted with a

trip switch as per Rule — Generators, are they compound wound yes, are they level compounded under working conditions yes

if not compound wound state distance between generators — and from switchboard — Where more than one generator is fitted are they

arranged to run in parallel yes, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole

Positive 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 yes and the results found as per rule yes Are the lubricating arrangements and the construction

of the generators as per rule yes Position of Generators engine room starboard side

is the ventilation in way of generators satisfactory yes are they clear of inflammable material yes if situated

near unprotected combustible material state distance from same horizontally — and vertically — are the generators protected from mechanical

injury and damage from water, steam and oil yes are the bedplates and frames earthed yes and the prime movers and generators in metallic

contact yes Switchboards, where are main switchboards placed engine room starboard side on

raised platform over generating sets are they in accessible positions, free from inflammable gases and acid fumes yes are they protected from mechanical injury and damage from water, steam

and oil yes if situated near unprotected combustible material state distance from same horizontally — and vertically — what insulation

material is used for the panels slate 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 yes Is the frame effectually earthed yes

Is the construction as per Rule yes including accessibility of parts yes absence of fuses on the back of the board yes individual fuses

to pilot and earth lamps, voltmeters, etc. yes locking of screws and nuts yes labelling of apparatus and fuses yes fuses on the "dead"

side of switches yes Description of Main Switchgear for each generator and arrangement of equaliser switches 3 pole C.B.'s with 4

trips on 2 poles + R/C trip - one pole used for equaliser - fitted on

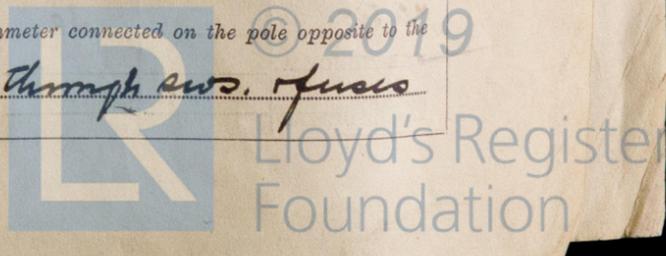
each generator main including quadrant of main generator set

and for each outgoing circuit double pole knife switches and double pole

carriage fuses Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard five

ammeters five voltmeters — synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection yes Earth Testing, state means provided E lamps coupled to E through cws. fuses



Switches, Circuit Breakers and Fuses, are they as per Rule Y, are the fuses an approved type Y, are all fuses labelled as per Rule Y, are the reversed current protection devices connected on the pole opposite to the equaliser connection Y, have they been tested under working conditions Y. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Y. Cables, are they insulated and protected as per the appropriate Tables of the Rules Y, if otherwise than as per Rule are they of an approved type Y, state maximum fall of pressure between bus bars and any point under maximum load long than 5.3 volts are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Y. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends Y with insulating compound Y or waterproof insulating tape Y. 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 Y, are cables laid under machines or floorplates no, if so, are they adequately protected Y. Are cables in machinery spaces, galleys, laundries, etc., lead covered Y or run in conduit Y. State how the cables are supported and protected L.C. & L.A. B. cables clipped on surface in machinery spaces; V.I.R. cables run in galvanized pipes in 'twendeck space; L.C. cables clipped on wood grounds in accommodation. Are all lead sheaths, armouring and conduits effectually bonded and earthed Y. Refrigerated chambers, are the cables and fittings as per Rule Y. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Y, where unarmoured cables pass through beams, etc., are the holes effectively bushed Y and with what material lead and fibre. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Y. Emergency Supply, state position Y and method of control Y. Navigation Lamps, are they separately wired Y controlled by separate single pole switches Y and fuses Y. Are the switches and fuses in a position accessible only to the officers on watch Y, is an automatic indicator fitted Y. Secondary Batteries, are they constructed and fitted as per Rule Y, are they adequately ventilated Y. Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Y. Are 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 Y and where are the controlling switches fitted Y, are all fittings suitably ventilated Y. are all fittings and accessories constructed and installed as per Rule Y. Searchlight Lamps, No. of Y, whether fixed or portable Y, are their fittings as per Rule Y. Heating and Cooking, is the general construction as per Rule Y. are the frames effectually earthed Y, are heaters in the accommodation of the convection type Y. Motors, are all motors constructed and installed as per Rule Y and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil Y, if situated near unprotected combustible material state minimum distance from same horizontally Y and vertically Y. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing Y. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule Y. Control Gear and Resistances, are they constructed and fitted as per Rule Y. Lightning Conductors, where required are they fitted as per Rule Y. 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 Y, are all fuses of the cartridge type Y are they of an approved type Y. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type Y. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule Y, are they suitably stored in dry situations Y. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory Y.

Certs for 2 Induction Pump Motors 71 and 72 must be followed.

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	2	60	220	273	500	3 sep. Diesel engines	Diesel Oil	Above 150° F
M/G. SET	2	25	110	227	640	1 sep. steam engine		
EMERGENCY ...	1	30	110	273	1300	220 Volt main		
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (Lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands, Sq. Ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATORS (220 VMT) ...	60	1	37/0.83	273	296	444	V.C.	L.C. A. B.
" " EQUALISER ...		1	19/0.72	-	157	22	V.C.	L.C. A. B.
110VOLT GENERATORS	25	1	37/0.72	227	246	444	V.C.	L.C. A. B.
" " EQUALISER		1	19/0.64	-	135	22	V.C.	L.C. A. B.
EMERGENCY GENERATOR ...		1	37/0.83	180	296	244	V.C.	L.C. A. B.
ROTARY TRANSFORMER: MOTOR	30	2	37/0.83	273	2184	544	V.I.R.	L.C. A. B.
" " GENERATOR		1	37/0.83	-	184	27	V.I.R.	L.C. A. B.

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (Lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
AUX. SWITCHBOARDS AND SECTION BOARDS ...							
FWD. ACCOM. AND CARGO S.B. FEED (I)	1	19/0.64	68.5	135	360	V.C.	L.C. A. B.
AFT ACCOM. AND CARGO S.B. FEED (II)	1	7/0.64	59.5	75	140	V.C.	L.C. A. B.
ENG. RM. AUXILIARIES S.B. FEED (III)	1	7/0.86	20.5	24	40	V.I.R.	L.C. A. B.
REFRIG. FANS S.B. FEED (IV)	1	19/0.44	78.5	87	360	V.C.	L.C. A. B.
ENGINE ROOM LTA. D.B.	1	7/0.64	20.5	46	80	V.I.R.	L.C. A. B.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (Lead plus return feet).	INSULATED WITH.	HOW PROTECTED.		
WIRELESS ...		1	7/0.36	15	24	280	V.I.R.	L.C. A. B.
NAVIGATION LIGHTS ...		1	7/0.29	6.3	18.2	280	V.I.R.	L.C. A. B.
LIGHTING AND HEATING								
S.B. FEEDS:- AFT D.B. AND AFT CARGO D.B. @ 1		7/0.64	109.15	31	380	80	V.I.R.	In galv. pipes
ENG. D.B. AND OFFICE D.B. @ 1		7/0.36	109.15	24	X	X	V.I.R.	L.C.
KETTLE AND TOASTER @ 1		1/0.64	42.8	12.9	360	40	V.I.R.	L.C.
S.B. FEEDS:- CAPT'S. D.B. AND PASSENGER D.B. @ 1		7/0.36	181.21	24	X	X	V.I.R.	L.C.
FORWARD CARGO D.B.		7/0.52	15.5	37	310	30	V.I.R.	In galv. pipes
TOASTER AND DOM. REFRIG. @ 1		1/0.64	81.6	12.9	360	30	V.I.R.	L.C.

NOTE X MAINS LED TO SEPARATE FUSES AT EACH CABIN.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (Lead plus return feet).	INSULATED WITH.	HOW PROTECTED.	
NO. 1. REFRIG. COMPRESSOR	1	42	19/0.83	168	191	255	V.C.	L.C. A. B.
NO. 2. " "	1	42	19/0.83	168	191	250	V.C.	L.C. A. B.
NO. 1. EXTRACTOR PUMP	1	6/9	7/0.64	52/75	75	240	V.C.	L.C. A. B.
NO. 2. " "	1	6/9	7/0.64	52/75	75	240	V.C.	L.C. A. B.
NO. 1. BILGER BLOWER	1	6.5	7/0.64	58.5	75	230	V.C.	L.C. A. B.
NO. 2. " "	1	6.5	7/0.64	58.5	75	230	V.C.	L.C. A. B.
AIR COMPRESSOR	1	3	7/0.44	28	31	80	V.I.R.	L.C. A. B.
DOMESTIC REFRIG. M/G	1	5	7/0.64	42.5	75	64	V.C.	L.C. A. B.
NO. 1. REFRIG. BRINE PUMP	1	4	7/0.44	20	31	290	V.I.R.	L.C. A. B.
NO. 2. " "	1	4	7/0.44	20	31	290	V.I.R.	L.C. A. B.
REFRIG. CIRC. PUMP	1	5	7/0.44	25.5	31	180	V.I.R.	L.C. A. B.
OIL PURIFIER (FED FROM III)	1	1	1/0.64	9	12.9	120	V.I.R.	L.C. A. B.
BRUSHING M/G (FED FROM III)	1	1	1/0.64	9	12.9	120	V.I.R.	L.C. A. B.
REFRIG. VENT FANS (FED FROM IV)	4	4.5	7/0.36	18	24	85	V.I.R.	L.C. A. B.
REFRIG. FAN (FED FROM IV)	1	1.6	3/0.36	6.5	12	70	V.I.R.	L.C. A. B.
WORKSHOP MOTOR	1	3	7/0.44	27	31	60	V.I.R.	L.C. A. B.

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.

By Sunderland Forge & Eng Co Ltd Electrical Engineers. Date 6-2-1939
A. J. Garney

COMPASSES.

Minimum distance between electric generators or motors and standard compass 62 feet

Minimum distance between electric generators or motors and steering compass 60 feet

The nearest cables to the compasses are as follows:—

A cable carrying .144 Ampères 12 feet from standard compass on the ~~feet from~~ steering compass.

A cable carrying .14 Ampères on the ~~feet from~~ standard compass 12 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 nil degrees on every course in the case of the standard compass, and nil degrees on every course in the case of the steering compass.

R. M. Thompson Builder's Signature. Date 7-3-39
Chairman

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

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 fitted under special survey. The materials used and the workmanship are good. On completion the equipment was operated under working conditions and the overboard and reversed current trip mechanisms of the circuit breakers were adjusted and tested. The insulation resistance of all circuits was measured. This equipment is in my opinion suitable for a classed vessel.

Note
14/3/39

Total Capacity of Generators 170 Kilowatts.

The amount of Fee ... £ 39: 10: 0 When applied for 10 MAR 1939

Travelling Expenses (if any) £ : : When received 20: 3: 19: 39

Stanton
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 21 MAR 1939

Assigned See Std. J.C. 32593

211,10,38.—Transfer. (MADE IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

