

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 27th Apr 1945 When handed in at Local Office 3 MAY 1945 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 21st March, Last Survey 28th April 1945
Reg. Book. Suppt. (Number of Visits.....)

92595 on the M.V. "WEYBANK" Tons { Gross 7368
Net 4961

Built at Sunderland By whom built Wm. Beard & Sons, Ltd. Yard No. 724 When built 1945

Owners Bank Line Ltd. Port belonging to Genoa

Electrical Installation fitted by Campbell & Sherwood, Ltd. Contract No. 724 When fitted 1945

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 Distributions two wire main and Voltage of supply for Lighting 110

Heating no Power 110 Direct or Alternating Current, Lighting yes Power yes If Alternating Current state periodicity no Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off yes Are turbine emergency governors fitted with a trip switch as per Rule no Generators, are they compound wound yes, are they level compounded under working conditions yes,

if not compound wound state distance between generators no and from switchboard no Where more than one generator is fitted are they arranged to run in parallel no, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole negative

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing no 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 aft on raised stools, 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 no and vertically no, 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 aft on gallery above operating etc

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 no and vertically no, what insulation material is used for the panels "Epony Sindamyo", if of synthetic insulating material is it an Approved Type yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule no Is the frame effectually earthed yes

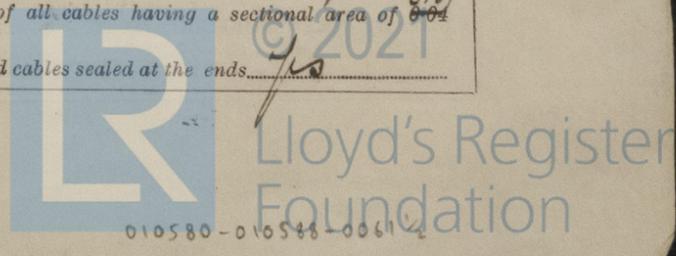
Is the construction as per Rule yes, including accessibility of parts yes, absence of fuses on the back of the board yes, individual fuses to pilot and earth lamps, voltmeters, etc., yes locking of screws and nuts yes, labelling of apparatus and fuses yes, fuses on the "dead" side of switches yes Description of Main Switchgear for each generator and arrangement of equaliser switches double pole circuit breaker with inverse time limit overcurrent release on each pole

and for each outgoing circuit double pole double throw quick break knife switch and double pole fuse

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard two ammeters two voltmeters no synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection no Earth Testing, state means provided Edamps connected to E through two fuses

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an approved type yes, are all fuses labelled as per Rule yes If circuit breakers are provided for the generators, at what overload current did they open when tested 200A, are the reversed current protection devices connected on the pole opposite to the equaliser connection no, have they been tested under working conditions, and at what current did they operate no Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule yes

Cables, are they insulated and protected as per the appropriate Tables of the Rules yes, if otherwise than as per Rule are they of an approved type yes, state maximum fall of pressure between bus bars and any point under maximum load 6.6V, are the ends of all cables having a sectional area of 0.8 square inch and above provided with soldering sockets yes Are paper insulated and varnished cambric insulated cables sealed at the ends yes



with insulating compound or waterproof insulating tape *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 cables laid under machines or floorplates. *Yes*, if so, are they adequately protected. *Yes*. Are cables in machinery spaces, galleys, laundries, etc., lead covered. *Yes* or run in conduit. *Yes*. State how the cables are supported and protected. *M.I.C.C. cables run on surface & W.E. cables run in heavy gauge covered conduit in 'tween deck and machinery spaces. L.C. cables clipped to wood grounds & to surface in accommodation spaces.*

Are all lead sheaths, armouring and conduits effectually bonded and earthed. *Yes*. Refrigerated chambers, are the cables and fittings as per Rule. *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. *Yes* and with what material. *Lead*. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. *Yes*. Emergency Supply, state position. _____ and method of control. _____

Navigation Lamps, are they separately wired. *Yes* controlled by separate double pole switches. *Yes* and fuses. *Yes*. Are the switches and fuses in a position accessible only to the officers on watch. *Yes*, is an automatic indicator fitted. *Yes*. Secondary Batteries, are they constructed and fitted as per Rule. _____, are they adequately ventilated. _____ what is the 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 fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. *Yes*, if so, how are they protected. _____

and where are the controlling switches fitted. _____, are all fittings suitably ventilated. *Yes*

are all fittings and accessories constructed and installed as per Rule. *Yes*. Searchlight Lamps, No. of _____, whether fixed or portable. _____, are their fittings as per Rule. _____ Heating and Cooking, is the general construction as per Rule. _____

are the frames effectually earthed. _____, are heaters in the accommodation of the convection type. _____ Motors, are all motors constructed and installed as per Rule. *Yes* and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. *Yes*, if situated near unprotected combustible material state minimum distance from same horizontally. _____ and vertically. _____ Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment. _____

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. _____ Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. *Yes*. Control Gear and Resistances, are they constructed and fitted as per Rule. *Yes*. 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. _____, are all fuses of the cartridge type. _____

are they of an approved type. _____ Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. _____ Are the cables lead covered as per Rule. _____ Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. *Yes*, are they 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	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	15	110	136	600	Single cylinder steam engine		
EMERGENCY								
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	2 x 15	1	19/183	136	191	40/50	V.C.	L.C.H.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
Accom. Ldg. d.b. 'C'	1	.04	24	104	208	M.I.	C.C.
Accom. Ldg. d.b. 'C'	1	.04	47	104	180	M.I.	C.C.
Cargo Ldg. d.b. 'D'	1	.04	36	104	148	M.I.	C.C.
Engine Room d.b.	1	19/104	34	83	18	W.E.	On Main Swd.
Aft Accom. d.b.	1	13/152	48	104	224	W.E.	In Conduit

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	.0225	15	75	208	M.I. C.C.
NAVIGATION LIGHTS P.B.	1	7/804	6	31	208	M.I. C.C.
LIGHTING AND HEATING	All fed to main ldg. d.b. from Accom. d.b. 'C' as below.					
Alt. Ldg. d.b. 'C'	1	3/036	6	12	110	W.E. L.C.H.
Captain's Ldg. d.b.	1	7/044	18	31	110	W.E. L.C.H.
Port Ldg. d.b.	1	7/044	21	31	52	W.E. L.C.H.
Starboard Ldg. d.b.	1	7/044	20	31	6	W.E. L.C.H.
Emergency Ldg. d.b.	1	3/036	6	12	120	W.E. L.C.H.
Forward Cargo d.b.	1	7/044	18	46	340	W.E. In conduit
Middle Cargo d.b.	1	7/044	12	31	180	W.E. In conduit
Aft Cargo d.b.	1	3/036	2x3	8	25	W.E. L.C.H.
Upper d.b. Ldg. d.b.	1	7/044	8	31	30	W.E. L.C.H.
Lower d.b. Ldg. d.b.	1	7/044	9	31	12	W.E. L.C.H.
Starboard Ldg. d.b.	1	7/044	12	31	200	W.E. In conduit
Aft Ldg. d.b.	1	7/044	12	31	12	W.E. On main swd.

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.
Oil Burning Fan	1	5	7/044	42	46	130	W.E. In conduit
Iron Dragnet Fan	1	3 1/2	.01	29.7	42	162	M.I. C.C.
Running Pump	1	1 1/2	7/044	13.5	31	75	W.E. In conduit
Oil Pumps	2	3	7/044	27.1	31	200	W.E. In conduit
Refrig. M.C.	2	3x1	7/044	27.9	46	80	W.E. In conduit
W.C. Crane	1	3	.01	26	42	162	M.I. C.C.
Workshop	1	2	7/044	17	31	190	W.E. In conduit
W.C. Ldg. (off Ldg. d.b.)	2	1 1/2	7/036	12	24	280/160	W.E. In conduit
Vent. Fan (off aft d.b.)	1	2	7/044	17	31	25	W.E. L.C.H.

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.

CAMPBELL & IGHENWOOD, LTD.
 Thomas Machy Electrical Engineers. Date 28th Oct 1944

COMPASSES.

Minimum distance between electric generators or motors and standard compass 42 feet
 Minimum distance between electric generators or motors and steering compass 38 feet

The nearest cables to the compasses are as follows:—

A cable carrying 0.14 Ampères on the feet from standard compass 7 feet from steering compass.
 A cable carrying 0.14 Ampères 7 feet from standard compass on the 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.

WILLIAM DOXFORD & SONS, Limited

J. Ramsay Lebbe Builder's Signature. Date

Is this installation a duplicate of a previous case *Yes* If so, state name of vessel "Raybank"

Plans. Are approved plans forwarded herewith *Yes* If not, state date of approval 12/11/44, 27/11/44, 18/12/44

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith *Yes*

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. The materials used and the workmanship are good. On completion the equipment was run under working conditions with satisfactory results. The protective devices of the circuit breakers were adjusted and operated and the maintenance resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a closed vessel.*

Thus 14.5.44

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... £ 22 : 10 : 30 Oct. 1944
 Travelling Expenses (if any) £ : : When received.19.....

J. Jamison
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FBL 18 MAY 1945

Assigned *Su F.E. machy. opt.*

5m. 4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

