

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

MAY 17 1941

Date of writing Report 3rd Apr. 1941 When handed in at Local Office 14/5/41 Port of MiddlesbroughNo. in Survey held at Newton Hill on 2nd Date, First Survey 19th Feb. Last Survey 29th Apr. 1941
Reg. Book. Suppt. (Number of Visits 8)88040 on the S.S. "EMPIRE OIL" Tons 8028.79
Net 4676.71Built at Newton Hill on 2nd By whom built Furness S.B. Co., Ltd. Yard No. 327 When built 1941Owners Ministry of Shipping Port belonging to MiddlesbroughElectrical Installation fitted by Furness S.B. Co., Ltd. (Elec. Dept.) Contract No. 327 When fitted 1941Is vessel fitted for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. No Sub.Sig. NoHave plans been submitted and approved Yes System of Distribution Down in immersed Voltage of supply for Lighting 110Heating Power 110 Direct on Alternating Current, Lighting Yes Power Yes If Alternating Current state periodicity 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 atrip switch as per Rule Yes Generators, are they compound wound Yes, are they level compounded under working conditions Yes,if not compound wound state distance between generators Yes and from switchboard Yes Where more than one generator is fitted are theyarranged to run in parallel No, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive polenegative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes Have certificates oftest for machines under 100 kw. been supplied Yes and the results found as per rule Yes Are the lubricating arrangements and the constructionof the generators as per rule Yes Position of Generators Engine room on raised platformaft, is the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, if situatednear unprotected combustible material state distance from same horizontally Yes and vertically Yes, are the generators protected from mechanicalinjury and damage from water, steam and oil Yes, are the bedplates and frames earthed Yes and the prime movers and generators in metalliccontact Yes Switchboards, where are main switchboards placed Engine room port side aft ongun main platformare they in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steamand oil Yes, if situated near unprotected combustible material state distance from same horizontally Yes and vertically Yes, what insulationmaterial is used for the panels "Linsam", if of synthetic insulating material is it an Approved Type Yes, if ofsemi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule Yes Is the frame effectually earthed YesIs the construction as per Rule Yes, including accessibility of parts Yes, absence of fuses on the back of the board Yes, individual fusesto 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 polequick break knife switch and double pole fusesand for each outgoing circuit Double pole double throw knife switch (quickbreak type) and double pole fusesAre compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard Twoammeters Two voltmeters Two synchronising devices Two For compound machines in parallel is the ammeter connected on the pole opposite to theequaliser connection Yes Earth Testing, state means provided Elamps coupled to E through res. fusesSwitches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an approved type Yes, are all fuses labelled asper Rule Yes If circuit breakers are provided for the generators, at what overload current did they open when tested None, are the reversed currentprotection devices connected on the pole opposite to the equaliser connection None, have they been tested under working conditions, and at what currentdid they operate Yes Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YesCables, 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 Yesstate maximum fall of pressure between bus bars and any point under maximum load 4.44V, are the ends of all cables having a sectional area of 0.04square inch and above provided with soldering sockets Yes Are paper insulated and varnished cambric insulated cables sealed at the ends 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	20	110	182	600	Single cylinder steam engine		
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES.								
DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return lead).	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 20	1	19/053	182	191 ✓	32 x 40	V.C.	L.C.A. B
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

[illegible]

WIRELESS (Off ant. switchboard)	1	7/044	15	42	80	V.C.	L.C.A.B.
NAVIGATION LIGHTS (Off ant. switchboard)	1	7/044	12	42	160	As.	As.
LIGHTING AND HEATING							
Engine Room Ltg. ab. No. 1	1	7/044	18	42	60	V.C.	L.C.A.B.
Engine Room Ltg. ab. No. 2	1	7/044	15	42	60	As.	As.
2 Offrs. Ltg. ab. (Off ant. switchboard)	1	7/044	18+1	42	60+90	As.	L.C.A.B.
Pub. Ltg. ab.	1	7/044	8	42	372	As.	L.C.A.B.
Pass. Floods ab.							
Mid. Passages ab.							
Pump Room Ltg. ab.							
2 Enginrs. Ltg. ab. (Off aft Ltg. ab.)	1	7/044	20+20	42	16+70	V.C.	L.C.A.B.

[illegible]

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.

P. L. Glover

Electrical Engineer.

Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass. 283 feet

Minimum distance between electric generators or motors and steering compass. 280 feet

The nearest cables to the compasses are as follows:—

A cable carrying 14 Amperes on the feet from standard compass 7 feet from steering compass.

A cable carrying 14 Amperes 7 feet from standard compass on the feet from steering compass.

A cable carrying 14 Amperes 7 feet from standard compass on the 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 1/2 degrees on every course in the case of the standard compass, and 1/2 degrees on every course in the case of the steering compass.

Jas. M. Robertson

Builder's Signature.

Date

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

Plans. Are approved plans forwarded herewith Yes If not, state date of approval 6/11/40

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 and in accordance with the approved plans and the Rules. The materials used are of good quality and the workmanship is good. On comparison trials of the equipment under working conditions were witnessed and found satisfactory and the insulation resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel carrying petroleum in bulk.

Noted

J. J.

20/5/41.

Total Capacity of Generators 40 Kilowatts.

The amount of Fee ... £ 25 : - : When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

G. J. J. J.

Surveyor to Lloyd's Register of Shipping.

TUE. 20 MAY 1941

Committee's Minute

Assigned

See MAB 2E 17038



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