

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 14 AUG 1941

Date of writing Report 17th July 1941 When handed in at Local Office 20/7/41 Port of Middlesbrough

No. in Survey held at Haverhill Hill on 20th Date, First Survey 20th May Last Survey 16th July 1941  
Reg. Book. Suppl.

91014 on the S.S. "EMPIRE SAPPHIRE"

Tons { Gross 8031.27  
Net 4693.27

Built at Haverhill Hill on 20th By whom built Furness &amp; Co., Ltd. Yard No. 329 When built 1941

Owners Ministry of Shipping Port belonging to Middlesbrough

Electrical Installation fitted by Furness &amp; Co., Ltd. (Gen. Dept.) Contract No. 329 When fitted 1941

Is 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 Two wire minimum Voltage of supply for Lighting 110Heating. Power 110 Direct on Alternating Current, Lighting Yes Power Yes If Alternating Current state periodicity Prime Movershas 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. Yes Generators, are they compound wound. Yes are they level compounded under working conditions. Yesif not compound wound state distance between generators. Yes and from switchboard. Yes 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 negativeHave machines over 100 kw. been inspected by the Surveyors during manufacture and testing. Yes 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 aft on raised platformis 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. Yes and vertically. Yes 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 port side on raised platform near generating setsare 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. Yes and vertically. Yes what insulation material is used for the panels. "Economy Linsamp" 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. 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 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 quick break knife switch and double pole fuseand 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 Two 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. Earth lamps connected to E through R.C. 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. 110% 10 sec are the reversed current protection devices connected on the pole opposite to the equaliser connection. Yes have they been tested under working conditions, and at what current did 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. Yes state maximum fall of pressure between bus bars and any point under maximum load. 4.4V. are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets. Yes Are paper insulated and varnished cambric insulated cables sealed at the ends. Yes



and found satisfactory.....

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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.

Electrical Engineers.

Date 18. 7. 41

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 280 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 100 Ampères on the standard compass 7 feet from steering compass.

A cable carrying 100 Ampères 7 feet from standard compass on the 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.

Builder's Signature.

Date

Is this installation a duplicate of a previous case Yes

If so, state name of vessel

"Empire Gold"

Plans. Are approved plans forwarded herewith No

If not, state date of approval

6/11/40

Certificates. Are certificates of test for motors 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 in accordance with the approved plans and the Surveyor's letter. The materials used are of good quality and the workmanship is good. On completion the equipment was run under working conditions with reinforcing magnets 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

15/8/41

Total Capacity of Generators 40 Kilowatts.

The amount of Fee ... £ 25 : - : When applied for, 13. 2. 19. 41.

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

TUE. 18 AUG 1941

Committee's Minute

Assigned See Note JE 17081

S. Antson

Surveyor to Lloyd's Register of Shipping.

LLOYD'S REGISTER OF SHIPPING CO. LIMITED,

Geo. M. Roberts Secretary



Lloyd's Register Foundation