

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

14 MAY 1943

Received at London Office.....

Date of writing Report. 4.7 May 1943, When handed in at Local Office. 1.3 MAY 1943 Port of SunderlandNo. in Survey held at Sunderland Date, First Survey 25.2 Nov Last Survey 7.4 May 1943  
Reg. Book. Suppt. and Walland (Number of Visits.....)86387 on the S.S. "EMPIRE FRIENDSHIP" Tons { Gross 7058  
Net 4873Built at Sunderland By whom built Shott Bros. Ltd. Yard No. 475 When built 1943Owners Ministry of War Transport Port belonging to SunderlandElectrical Installation fitted by The Sunderland Eng. & Ry. Co. Ltd. Contract No. 475 When fitted 1943Is vessel fitted for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. YesHave plans been submitted and approved Yes System of Distribution Surrounding main Voltage of supply for Lighting 110Heating Yes Power 110 Direct or 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 Yes, 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 surrounding side upYes, 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 surrounding sideon after bulkhead near gunneryare 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 "Economy Linoleum" 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 fuseand for each outgoing circuit Double pole double throw quick break knifeswitch and double pole fuseAre 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 2 lamps connected 4 E through am. fuseSwitches, 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 Yes, are the reversed currentprotection devices connected on the pole opposite to the equaliser connection Yes, 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 Yes,state maximum fall of pressure between bus bars and any point under maximum load 44.44, are the ends of all cables having a sectional area of 0.01square 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.

## GENERATOR CABLES.

### MAIN DISTRIBUTION CABLES.

LIGHTING AND HEATING, ETC., CABLES.

MOTOR CABLES.

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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.

P. PRO THE SUNDERLAND FORGE & ENGINEERING CO., LTD

Electrical Engineers.

Date 5.5.1943

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 164 feet

Minimum distance between electric generators or motors and steering compass 160 feet

The nearest cables to the compasses are as follows:—

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

A cable carrying 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 his degrees on every course in the case of the standard compass, and his degrees on every course in the case of the steering compass.

FOR SHIP BROTHERS, LIMITED.

Norman Blakey

Builder's Signature.

Date 11.5.43

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

Plans. Are approved plans forwarded herewith Yes If not, state date of approval 16/2/42

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 are of good quality and the workmanship is good. On completion the equipment was run under working conditions with satisfactory results and the insulation resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Noted

L.S.

21/5/43

Total Capacity of Generators 30 Kilowatts.

The amount of Fee £ 28 : 2/6 : 7/11/1943  
(incl. Specimen)  
Travelling Expenses (if any) £ : :  
When applied for, 7/11/1943  
When received, 19/11/1943

D. Harrison  
Surveyor to Lloyd's Register of Shipping.

TUES. 25 MAY 1943

Committee's Minute

Assigned Lee Fe machy rpl.



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