

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office SEP 18 1940

Date of writing Report 13th Sept 1940 When handed in at Local Office 14-9-1940 Port of Middlesbrough

No. in Survey held at Middlesbrough Date, First Survey 28th June Last Survey 4th Aug 1940
Reg. Book. (Number of Visits 6)S. 87957 on the S.S. "EMPIRE ENDURANCE" ex. "ALSTER" Tons { Gross 8510
Net 5353

Built at Hamburg By whom built Deutsche Schiff-Machf. Yard No. When built 1928

Owners Ministry of Shipping Port belonging to Middlesbrough

Electrical Installation fitted by Allgemeine Elektricitäts Gesellschaft Contract No. When fitted 1928

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. Yes
Holds & Stairs in Register Book but not verified on ship

Have plans been submitted and approved Yes System of Distribution Single wire bus system Voltage of supply for Lighting 115

Heating Power 115 Direct or Alternating Current, Lighting Yes Power Yes 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 No, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole

Not checked 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 and the results found as per rule 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 aft

on forward side of E.R. side

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 Marble, 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 Single pole knife

switch and single pole cartridge type fuse

and for each outgoing circuit Single pole double throw knife switch and single pole

cartridge type fuse

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard Two

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

equaliser connection Earth Testing, state means provided E lamp connected to E through bus of fuses

Single
~~double~~ pole switches *7/2* and fuses *7/2* Are the switches and fuses in a position accessible only to the officers on watch *7/2*, is an automatic indicator fitted *7/2*. Secondary Batteries, are they constructed and fitted as per Rule _____, are they adequately ventilated _____ Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof _____ Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present *7/2*, if so, how are they protected _____

are they of an approved type..... If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type..... Spare Gear, if the vessel is for open sea service have spares been provided as per Rule 6....., are they suitably stored in dry situations Yes..... Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory Yes.....

PARTICULARS OF GENERATING PLANT.

PARTICULARS OF GENERATING PLANT.							WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
DESCRIPTION OF GENERATOR.	No. of	RATED AT			Revs. per Min.	DRIVEN BY	Fuel Used.	Flash Point of Fuel.
		Kilowatts.	Volts.	Ampères.				
MAIN	2	15	115	130	400	Two cylinder compound steam engines		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH	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.	(and please specify feet).		
MAIN GENERATORs	2 x 15	1	95 mm. ²	130	150	60 x 40	V.I.R.	L.C.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" GENERATOR								

MAIN DISTRIBUTION CABLES.

[illegible]

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	16 mm. ²	15	49	160	V.I.R.	L.C. & A.
NAVIGATION LIGHTS	1	2.5 mm. ²	7	15.5	180	V.I.R.	L.C. & A.
LIGHTING AND HEATING							
Trid. Assem. & Cargo Ltg. & B.	1	16 mm. ²	15	49	135	V.I.R.	L.C. & A.
Food. Assem. Ltg. & B.	1	10 mm. ²	6	38	325	V.I.R.	L.C. & A.
Cargo Assem. & Cargo Ltg. & B.	1	10 mm. ²	14	39	64	V.I.R.	L.C. & A.
Off Assem. & Cargo Ltg. & B.	1	10 mm. ²	7	38	285	V.I.R.	L.C. & A.
Searchlight & Flood	1	16 mm. ²	—	49	240	V.I.R.	L.C. & A.
Engines & Boiler Room Ltg. & B.			13				Dist. from main switch.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Workshop main	1	1.7 Kw.	1	4 mm ²	16	22.5	60	V.I.B.	L.C.F.A.

Note 8. Fuses The fuses are of the fused cartridge type very similar to the Siemens & Ampere Rating "2nd" fuse the bases being provided with ground rings to prevent the insertion of incorrect cartridges. Spares there are on board 2 spare main fuse carriers and cartridges and approximately 6 spare fuse carriers and bases for the main circuit. A considerable quantity of distribution board fuse carriers and cartridges were found in the vessel.

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.....

COMPASSES.

Minimum distance between electric generators or motors and standard compass 114 feet

Minimum distance between electric generators or motors and steering compass 105 feet

The nearest cables to the compasses are as follows:—

A cable carrying 144 Ampères on the feet from standard compass 8 feet from steering compass.

A cable carrying 144 Ampères 8 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

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

The maximum deviation due to electric currents was found to be degrees on course in the case of standard compass, and degrees on course in the case of the steering compass.

Builder's Signature. Date.....

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 foregoing
description of the electrical equipment of this vessel has been
compiled from the results of a general examination of the
installation and from the details given on the plans found on
the ship and is as far as can be ascertained correct. Details
of the repairs effected are given in Trade Union Report No.
16891. The materials used are of good quality and the
workmanship is good and the equipment may, in my
opinion, be considered suitable for a classed vessel.
The plans of the electrical equipment are returned herewith.

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... £ 7 : 17 : 6 When applied for, 19

Travelling Expenses (if any) £ : : When received, 26-10-1914

Sturgeson
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned See Mch Rpt 16891



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