

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 26 SEP 1941

Received at London Office

Date of writing Report 16-9-1941 When handed in at Local Office 24/9/1941 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 12-8-41 Last Survey 15-9-1941 Reg. Book. (Number of Vicks. 7)

91066 on the S/S. "EMPIRE WOLFE" Tons { Gross 2873.42 Net 1684.56

Built at West Hartlepool By whom built Wm. Gray & Co. Ltd Yard No. 1119 When built 1941

Owners The Ministry of War Transport Port belonging to West Hartlepool

Electrical Installation fitted by Wm. Gray & Co. Ltd Contract No. 1119 When fitted 1941

Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. Yes E.S.D. No Gy.C. No Sub.Sig. No

Have plans been submitted and approved Yes System of Distribution Two-wire insulated Voltage of supply for Lighting 110

Heating 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 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

negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing None 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 floor level starboard side outboard from

main engine, 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 on raised platform above generating pit

starboard side of engine room, 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 "Sinderyno", 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 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 a double pole

single-throw quick-break Knife switch and double pole fuses.

and for each outgoing circuit a double-pole, single-throw, quick-break Knife switch and double

pole fuses.

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

ammeters one 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 lamps coupled to E. Wough, 110V and 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 None, are the reversed current

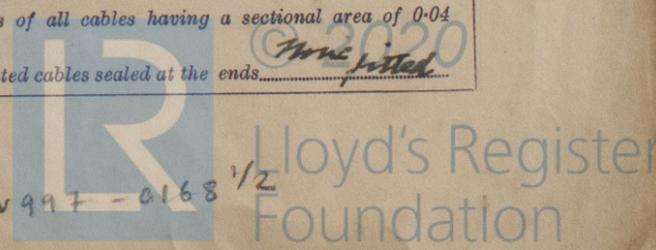
protection devices connected on the pole opposite to the equaliser connection, have they been tested under working conditions, and at what current

did they operate 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,

state maximum fall of pressure between bus bars and any point under maximum load less than 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 None fitted



with insulating compound _____ or waterproof insulating tape _____ 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 4/15, are cables laid under machines or floorplates 7/10, if so, are they adequately protected _____ Are cables in machinery spaces, galleys, laundries, etc., lead covered _____ or run in conduit 4/15 State how the cables are supported and protected Cables in machinery spaces, trunk decks, galleys etc V.I.R. protected by H.G. Steel bonded conduits fixed to the surface. In accommodation, V.I.R. lead-covered cables fixed to the surface and protected where necessary by wood or metal grounds.

Are all lead sheaths, armouring and conduits effectually bonded and earthed 4/15 Refrigerated chambers, are the cables and fittings as per Rule _____

Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands 4/15, where unarmoured cables pass through beams, etc., are the holes effectively bushed 4/15 and with what material lead Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule 4/15 Emergency Supply, state position _____ and method of control _____

Navigation Lamps, are they separately wired 4/15 controlled by separate double pole switches 4/15 and fuses 4/15 Are the switches and fuses in a position accessible only to the officers on watch 4/15, is an automatic indicator fitted 4/15 Secondary Batteries, are they constructed and fitted as per Rule 4/15, 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 4/15 Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present 7/10, if so, how are they protected _____ and where are the controlling switches fitted _____, are all fittings suitably ventilated 4/15, are all fittings and accessories constructed and installed as per Rule 4/15 Searchlight Lamps, No. of none fitted, 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 4/15 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil 4/15, 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 none fitted Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule _____ Control Gear and Resistances, are they constructed and fitted as per Rule 4/15 Lightning Conductors, where required are they fitted as per Rule 4/15 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 4/15, are they suitably stored in dry situations 4/15 Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory 4/15

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	12 1/2	110	113	850	Single cylinder		
de generating	1	12 1/2	110	113	850	Steam engine		
EMERGENCY						Single cylinder		
ROTARY TRANSFORMER						Steam engine		

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 GENERATOR	12 1/2	1	19/083	113	118	28	V.I.R.	H.G. bonded conduit
" " EQUALISER								
de generating generator	12 1/2	1	19/083	113	118	40	V.I.R.	" " "
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							
Midship Lg DB. (Helson etc)	1	7/064	10	46	216	V.I.R.	H.G. bonded conduit
Cargo DB.	1	7/044	18	31	80	V.I.R.	" " "
Cow aft DB.	1	7/064	15	46	420	V.I.R.	" " "

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	10	46	274	V.I.R.	H.G. bonded conduit
NAVIGATION LIGHTS	1	7/044	5	31	306	V.I.R.	" " "
LIGHTING AND HEATING	alternator fed from Saloon DB. to navigation circuits						
Engine & Boiler Space DB.	1	7/044	12	31	40	V.I.R.	H.G. bonded conduit
Engine Room Accommodation DB.	1	7/064	10	46	80	V.I.R.	" " "
Dg. Cable Reel	1	19/083	84	118	30	V.I.R.	" " "

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.
			No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Refrigerating motor	1	1.5	1	7/044	13.6	31	111	V.I.R.	H.G. bonded conduit
Water thruster circulating pump	1	.75	1	3/036	7.3	10	60	V.I.R.	" " "

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.

FOR WILLIAM GRAY & CO. LIMITED.
 Tho. S. Simpson
 GENERAL MANAGER

Electrical Engineers. Date 22.9.1941

COMPASSES.

Minimum distance between electric generators or motors and standard compass 196 ft

Minimum distance between electric generators or motors and steering compass 192 ft

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 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 22.9.1941
 Tho. S. Simpson

Is this installation a duplicate of a previous case No. If so, state name of vessel —

Plans. Are approved plans forwarded herewith No. If not, state date of approval D. 22-11-40 S. 8-4-41

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 Ministry of Shipping Specification and amendments thereto. The materials used are of good quality and design 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
 R. J.
 7/10/41

Total Capacity of Generators 12½ (+12½ D.G.) Kilowatts.

The amount of Fee ... £ 16. : 5. 0. } When applied for,19.....
 Travelling Expenses (if any) £ : : } When received,19.....

S. S. Ward
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 14 OCT 1941
 Assigned See Hpl No. 18194

5m.4.39.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)