

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

15 MAR 1945

Received at London Office

Date of writing Report.....19..... When handed in at Local Office. 27. 2. 45 Port of NEWCASTLE-ON-TYNE

No. in Survey held at SOUTH SHIELDS Date, First Survey (1944) Dec. 7th Last Survey Febry. 9th 1945
Reg. Book. (Number of Visits.....)

89435 on the "EMPIRE RABAU" Tons { Gross. 7307
Net. 5105

Built at SOUTH SHIELDS By whom built JOHN READHEAD & SONS LTD Yard No. 543 When built 1945

Owners MINISTRY OF WAR TRANSPORT Port belonging to SOUTH SHIELDS

Electrical Installation fitted by CLARKE CHAPMAN & CO LTD Contract No. 543 When fitted 1945

Is vessel fitted for carrying Petroleum in bulk..... Is vessel equipped with D.F. YES E.S.D. YES G.C. - Sub.Sig. -

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 D.C. Power D.C. 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....., 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..... 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..... Position of Generators ENGINE ROOM, STBD OF MAIN ENGINE, INBOARD AND

OUTBOARD....., 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, FRONT OF ENGINEERS STORE

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 "INTEROHM"....., 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 DOUBLE POLE Q.B

SWITCHES AND DOUBLE POLE FUSES

and for each outgoing circuit SINGLE POLE Q.B SWITCHES AND DOUBLE POLE FUSES

Are compartments containing switchboards composed of fire-resisting material or lined, as per Rule YES Instruments on main switchboard 2

ammeters 2 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 EARTH LAMPS CONNECTED TO "E" THROUGH SWITCHES 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....., are the reversed current

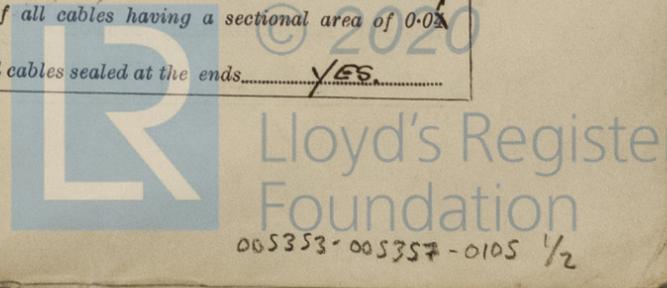
protection devices connected on the pole opposite to the equaliser connection....., have they been tested under working conditions, and at what current

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 16 V, are the ends of all cables having a sectional area of 0.02

square inch and above provided with soldering sockets YES Are paper insulated and varnished cambric insulated cables sealed at the ends YES



with insulating compound... or waterproof insulating tape... YES 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... YES, are cables laid under machines or floorplates... if so, are they adequately protected... Are cables in machinery spaces, galleys, laundries, etc., lead covered... or run in conduit... YES. State how the cables are supported and protected... V.I.R. CABLES IN CONDUIT AND W.I. PIPES. LEAD COVERED CABLES CLIPPED TO WOOD

GROUNDING, IN ACCOMMODATION

Are all lead sheaths, armouring and conduits effectually bonded and earthed... YES. Refrigerated chambers, are the cables and fittings as per Rule... YES. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands... YES, where unarmoured cables pass through beams, etc., are the holes effectively bushed... YES and with what material... LEAD. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... YES. Emergency Supply, state position... and method of control...

Navigation Lamps, are they separately wired... YES controlled by separate double pole switches... YES and fuses... YES. Are the switches and fuses in a position accessible only to the officers on watch... YES, is an automatic indicator fitted... YES. Secondary Batteries, are they constructed and fitted as per Rule... 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, weather proof... YES. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... if so, how are they protected...

and where are the controlling switches fitted... are all fittings suitably ventilated...

are all fittings and accessories constructed and installed as per Rule... YES. Searchlight Lamps, No. of... 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... YES and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil... YES, 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... 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... YES. Lightning Conductors, where required are they fitted as per Rule... 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... YES, are they suitably stored in dry situations... YES. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory... YES.

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	2	15	110	136	850	STEAM ENGINE		
EMERGENCY								
ROTARY TRANSFORMER								

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	2 x 15	1	37/042	136	152	4545	V.I.R.	L.C.
" " EQUALISER								
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							
ACCOMM. LIGHTING SECTION BOARD	1	19/064	40	83	120	V.I.R.	CONDUIT.
AFT SECTION BOARD	1	19/064	24	83	350	V.I.R.	"

LIGHTING AND HEATING, ETC., 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.			
WIRELESS	1	4/004	25	46	300	V.I.R.	CONDUIT.
NAVIGATION LIGHTS	1	4/036	15	24	300	V.I.R.	"
LIGHTING AND HEATING	INTERMEDIATE SUPPLY FROM OFFICERS ACCOM. DIS. FUSE BOARD.						
ENGINE ROOM LIGHTING DIS. FUSE BOARD	1	4/036	18	24	40	V.I.R.	CONDUIT.
AFT ACCOMM.	1	4/036	14	24	30	V.I.R.	"
ACCOMM. PORT	1	4/044	20	31	120	V.I.R.	"
ACCOMM. STEB	1	4/044	18	31	10	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.			
REFRIGERATOR	1	3/2	1	4/064	25	46	250	V.I.R.	CONDUIT
AFT VENT FANS	2	1/4	1	4/036	14	24	17/36	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 of the work done by CLARKE, CHAPMAN & Co., LTD.

W. W. Harrison

Electrical Engineers.

Date

19 FEB 1945

Chairman

COMPASSES.

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

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

The nearest cables to the compasses are as follows:—

A cable carrying $\frac{1}{2}$ Ampères ^{INSIDE} feet from standard compass feet from steering compass.

A cable carrying $\frac{1}{2}$ Ampères feet from standard compass ^{INSIDE} 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.

FOR JOHN READHEAD & SONS LTD.

John Power

Builder's Signature.

Date

26.2.45

MANAGING DIRECTOR.

Is this installation a duplicate of a previous case..... If so, state name of vessel.....

Plans. Are approved plans forwarded herewith..... If not, state date of approval..... 20-9-44

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith..... GENERATORS ✓

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.) *No Electrical*

Equipment of this vessel has been installed in conformity with the Society's Rules and Regulations, and the arrangements are in accordance with, or equivalent to, those shown on the approved plans.

Materials used are of good quality and the workmanship is satisfactory. On completion, the insulation of all circuits was good, and the Generators operated on Load and Governor tests, with satisfactory results.

The equipment as installed, is, in my opinion, suitable for a blessed vessel.

Solid

Plus 5.3.45

Total Capacity of Generators..... 30 ✓ Kilowatts.

The amount of Fee £ 28 : 2/6

(Red. 1/6)

When applied for,

19 FEB 1945

INCLUDING SPECIFICATION.

Travelling Expenses (if any) £ : :

When received.

.....19.....

Ad.iment.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI, 23 MAR 1945

Assigned

Su F. E. machy. opt.

5m.4.33.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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