

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) 5- OCT 1945
Received at London Office.....

Date of writing Report... 5-9-1945 When handed in at Local Office... 11-10-1945 Port of Middlesbrough

No. in Survey held at Middlesbrough Date, First Survey 30.6.45 Last Survey 4-9-1945
Reg. Book. (Number of Visits..... 6.....)

on the "L.C. 28" (J.4867) Tons {Gross... 631
Net... 533

Built at Middlesbrough By whom built The Shipwright Engineering Co. Ltd Yard No. When built 1945

Owners Admiralty Port belonging to London

Electrical Installation fitted by Johnson & Turner Ltd (Newcastle) Contract No. When fitted 1945

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

Have plans been submitted and approved Installation to Admiralty Plans System of Distribution Two-wire insulated Voltage of supply for Lighting 110

Heating - Power 110 Direct - 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 - Generator Mount down to Admiralty specification are they compound wound - are they level compounded under working conditions -

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

- 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 Yes listed by Admiralty Verber at Works Works and the results found as per rule - Are the lubricating arrangements and the construction

of the generator as per rule Yes Position of Generators on tripod stool in Boiler room

- 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 iron framework adjacent to generator

- 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 Switchboard to Admiralty design & specification 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 - 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 cartridge type fuses.

and for each outgoing circuit as per generator

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 through fuses open

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

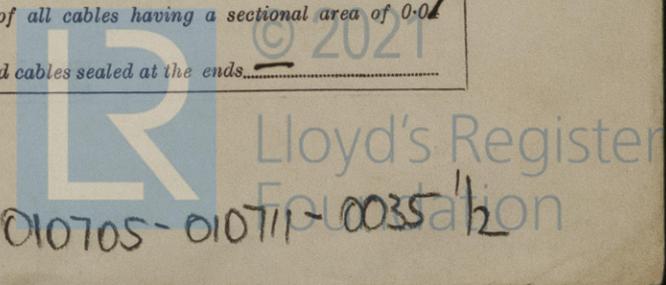
protection devices connected on the pole opposite to the equaliser connection - have they been tested under working conditions, and at what current

did they operate - Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Admiralty pattern fitted

Cables, are they insulated and protected as per the appropriate Tables of the Rules Admiralty pattern fitted 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 > 4 lb 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 -



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. Yes, are cables laid under machines or floorplates. No, if so, are they adequately protected. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit. State how the cables are supported and protected. Generally pattern lead covered cables clipped to prepared timber bays fastened to the surface & protected where necessary by metal guards.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. Yes. 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. Yes, where unarmoured cables pass through beams, etc., are the holes effectually 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. Emergency supply is provided by a separate generator.

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. No. Secondary Batteries, are they constructed and fitted as per Rule. Yes, are they adequately ventilated. Yes what is the battery capacity in ampere hours. 100 Ah

Fittings, are all fittings on weather decks, in stowholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. Yes. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. No, if so, how are they protected. By metal guards.

and where are the controlling switches fitted. On the main deck., are all fittings suitably ventilated. Yes, are all fittings and accessories constructed and installed as per Rule. Yes. Searchlight Lamps, No. of 1, whether fixed or portable. Fixed, are their fittings as per Rule. Yes. Heating and Cooking, is the general construction as per Rule. Yes, are the frames effectually earthed. Yes, are heaters in the accommodation of the convection type. Yes. 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. Yes

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. Yes. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. Generator 7 H.P. to be ready to start. Control Gear and Resistances, are they constructed and fitted as per Rule. Yes. Lightning Conductors, where required are they fitted as per Rule. Yes. 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. Yes, are all fuses of the cartridge type. Yes, are they of an approved type. Yes. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. Yes. Are the cables lead covered as per Rule. Yes. 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.		Fuel Used.	Flash Point of Fuel.
MAIN	1	10	110	91	Engle G. Lube Vertical		
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 For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	10	1	19/083	91	118/18	118	V-1-R	LC (AP. 6188A)
" EQUALISEE								
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 For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No. in Parallel For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS						
NAVIGATION LIGHTS						
LIGHTING AND HEATING						
DB-A (General Xfg)	1	7/044	24	31/84	V-1-R	LC (AP. 6192A)
DB-B	1	7/044	25	31/112	V-1-R	LC
D.G. Supply	1	19/082	22.5	64/18	V-1-R	LC (AP. 6191A)
Vent Fans DB	1	7/029	11	15/84	V-1-R	LC (AP. 6194A)

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	DESCRIPTION.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.

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.

Robert Weale For Janin (Newcastle) Ltd. Electrical Engineers. Date 16/9/45.

COMPASSES. To compasses fitted.
 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 Ampères feet from standard compass feet from steering compass.
 A cable carrying Ampères feet from standard compass 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 the
 standard compass, and degrees on course in the case of the steering compass.

W. L. Fletcher Builder's Signature. Date 20.9.45.
 Assistant Managing Director.

Is this installation a duplicate of a previous case yes If so, state name of vessel "L.C. 23"
 Plans. Are approved plans forwarded herewith No. If not, state date of approval Installation to Admiralty Plans
 Certificates. Are certificates of test for ~~motors engaged on essential services~~ and generator forwarded herewith No. (only test)
 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 Admiralty plans, specifications & amendments thereto: The materials used are of good quality and design and the workmanship is good: on completion trials of the equipment as required by Admiralty were witnessed with satisfactory results and the insulation resistance was found good: This equipment conforms generally to the Society's 1939-40 Rules for Electrical equipment and is in my opinion suitable for a vessel bearing the class "for Government service"

Total Capacity of Generators 10 Kilowatts.

The amount of Fee ... £ 10. 0. 0. When applied for, 14/10/1945.
Specification 10. 0. 0. When received
 Travelling Expenses (if any) £ : :
 Supervision of Specification

S. D. Mearns
 Surveyor to Lloyd's Register of Shipping.

19.....
 A/D rendered from
 London. 28. 3. 46

Committee's Minute FRI. 23 NOV 1945
 Assigned See F.E. machy. rpt.

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

