

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

7 AUG 1941

Received at London Office.....

Date of writing Report... 11<sup>th</sup> JULY 41... When handed in at Local Office... 11. 8. 41... Port of... GLASGOW.

No. in Survey held at... GLASGOW... Date, First Survey... 2. 4. 41... Last Survey... 9: 7: 19 41  
Reg. Book. (Number of Visits.....)

88213 on the M.V. "GLOUCESTER" Tons { Gross... 8130  
Net.....

Built at GLASGOW By whom built ALEX. STEPHENS & SONS LTD. Yard No. 575 When built 1941.

Owners NEW ZEALAND SHIPPING CO. LTD. Port belonging to LONDON

Electrical Installation fitted by CAMPBELL & ISHERWOOD LTD. Contract No. - When fitted 1941

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

Have plans been submitted and approved YES System of Distribution TWO WIRE D.C. Voltage of supply for Lighting 220.

Heating 220 Power 220 Direct or Alternating Current, Lighting DC Power D.C. 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 YES, are shunt field regulators provided YES Is the compound winding connected to the negative or positive pole

POSITIVE Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing YES 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 IN ENGINE 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 -

## NEAR GENERATORS

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 SINDANYO, 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 TRIPLE POLE

## CIRCUIT BREAKER WITH OVERLOAD AND REVERSE CURRENT RELEASES

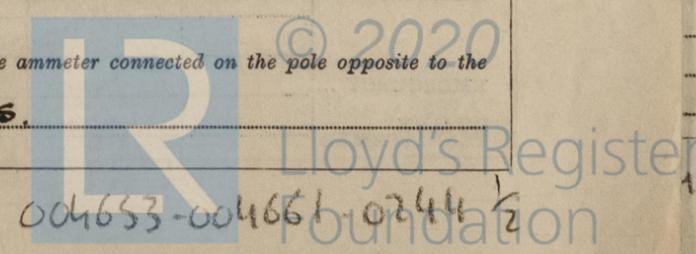
and for each outgoing circuit DOUBLE POLE CIRCUIT BREAKERS WITH OVERLOAD RELEASES FOR NINCH CIRCUITS

REFRIGERATOR CIRCUIT AND AIR COMPRESSOR CIRCUITS REMAINDER DOUBLE POLE SWITCHES & FUSES

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard 3

ammeters 2 voltmeters - synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection YES Earth Testing, state means provided EARTH LAMPS.



Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an approved type YES, are all fuses labeled as

per Rule YES, are the reversed current protection devices connected on the pole opposite to the equaliser connection YES, have they been tested

under working conditions YES. 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 11.8 Volts, 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 exposed 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 YES, if so, are they adequately

protected YES. Are cables in machinery spaces, galleys, laundries, etc., lead covered YES or run in conduit -. State how the cables are

supported and protected LEAD COVERED ARMORED + BRAIDED - CLIPPED TO STEEL TRAY

Are all lead sheaths, armoring 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 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 -

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 -

Fittings, are all fittings on weather decks, in stokeholds 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 -

and where are the controlling switches fitted -, are all fittings suitably ventilated YES

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 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 -

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 YES. 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 -, are all fuses of the cartridge type -

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 YES, 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.

DESCRIPTION OF GENERATOR.	No. of	RATED AT			DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.		Revs. per Min.	Fuel Used.
MAIN	3	300	220	1364	465	DIESEL ENGINE	OIL ABOVE 150°F.
EMERGENCY							
ROTARY TRANSFORMER							

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TED 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	300	2	91/103	1364	1476	100	V.C.	L.C.A.+B.
" " EQUALISER		1	91/103	632	738	50	V.C.	L.C.A.+B.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS								
MIDSHIP WINCH PANEL.	1	19/083	191	191	132	V.C.	L.C.A.+B.	
AFTER WINCH PANEL.	1	37/072	213	246	306	V.C.	" "	
FORWARD WINCH PANEL.	1	37/072	213	246	478	V.C.	" "	
REFRIG. SWITCHBOARD.	4	61/103	2000	2160	240	V.C.	" "	
MACHINERY AUX. DIS. BOX	1	7/052	53	54	120	V.C.	" "	
MACHINERY AUX. SECT. BOX	1	7/044	26	31	60	RUBBER	" "	
MACHINERY SPACE VENT. FANS.	1	7/064	36	46	120	"	" "	
MACHINERY SPACE SECTION BOARD.	1	7/064	29	46	138	"	" "	

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/044	25	31	120	RUBBER	LEAD COVERED
NAVIGATION LIGHTS	1	3/026	905	10	282	"	" "
LIGHTING AND HEATING							
ACCOMMODATION LIGHTING.	1	7/052	50	54	135	V.C.	L.C.A.+B.
RADIATOR CIRCUIT DIST. BOX	1	7/064	41	75	174	V.C.	" "
MACHINERY SPACE LIGHTING.	1	7/052	34	45	180	RUBBER	" "
ACCOMMODATION LIGHTING DIST. BOX.	1	7/036	17.5	24	126	"	" "
CARGO LIGHTING, DIST. BOX.	1	7/044	31	31	180	"	" "
ACCOMMODATION FANS. DIST. BOX.	1	7/044	19.8	31	138	"	" "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
AIR COMPRESSORS	2	67	1	37/072	243	246	102	V.C. L.C.A.+B.
WATER CIRCULATING PUMPS	2	12	1	7/052	45	57	150	V.C. " "
BRINE PUMP.	1	12	1	7/052	45	57	84	YE " "
CO2 COMPRESSORS	2	160	2	37/083	581	592	114	V.C. " "
SALT WATER CIRCULATING PUMP	1	36/58	1	37/072	216	246	180	V.C. " "
BALLAST PUMP.	1	29/53	1	37/072	192	246	210	V.C. " "
GENERATOR COOLING PUMPS	2	14/18	1	7/064	69	75	228	V.C. " "
FUEL OIL PUMP.	1	11/18	1	7/064	69	75	156	V.C. " "
STEERING GEAR MOTORS	2	20/23	1	19/052	79	104	640	V.C. " "
PISTON COOLING PUMP.	1	34/53	1	19/083	187	191	228	V.C. " "
JACKET COOLING PUMP	1	34/53	1	19/083	187	191	258	V.C. " "
LUB. OIL PUMP.	1	11/18	1	7/064	69	75	174	V.C. " "
TURNING GEAR MOTOR	1	22	1	19/044	84	87	240	V.C. " "
GENERAL SERVICE PUMP.	1	14/18	1	7/064	69	75	174	V.C. " "
BILGE PUMP	1	14/18	1	7/064	69	75	186	V.C. " "
BRINE PUMPS.	3	3	1	7/029	13	15	90	RUBBER " "
BRINE PUMP.	1	3	1	7/029	13	15	36	" " "
BRINE PUMP	1	3 3/4	1	7/036	17	24	36	" " "
OIL PURIFIERS	3	3	1	7/029	13	15	90	" " "
OIL FUEL PRIMING PUMP.	1	2	1	3/036	9	12	42	" " "
OIL BURNING UNIT.	1	1	1	3/029	5	7.8	72	" " "
F.V. COOLING PUMPS	2	3	1	7/029	13	15	50	" " "
FRESH WATER PUMP.	1	3	1	7/029	13	15	150	" " "
OIL TRANSFER PUMP	1	8	1	7/044	29	31	258	" " "

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.

*Benjamin*

Electrical Engineers.

Date *29/7/41*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *200 FEET.*

Minimum distance between electric generators or motors and steering compass *172 FEET.*

The nearest cables to the compasses are as follows:—

A cable carrying *10* Ampères *8* feet from standard compass *8* feet from steering compass.

A cable carrying *50* Ampères *30* feet from standard compass *38* feet from steering compass.

A cable carrying *191* Ampères *30* feet from standard compass *38* 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 *ANY* course in the case of the

standard compass, and *NIL* degrees on *ANY* course in the case of the steering compass. *31 JUL 1941*

**ALEXANDER STEPHEN & SONS LIMITED**

*Alexander Stephen* Director

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 ELECTRICAL*

*EQUIPMENT OF THIS VESSEL HAS BEEN FITTED ON BOARD UNDER SPECIAL SURVEY  
TESTED UNDER FULL WORKING CONDITIONS AND FOUND SATISFACTORY.  
THE MATERIALS AND WORKMANSHIP ARE GOOD.*

*Noted  
3/9/41*

*Job  
4/8/41*

Total Capacity of Generators *900* Kilowatts.

The amount of Fee ... *Gls. £54* ... *When applied for, 19/8/1941*  
*Low £13.00* ... *When received, 1941*

Travelling Expenses (if any) *£ 1 : 13 : 4* (due to Low etc.)

*R. Stone*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 5 AUG 1941*

Assigned *See Glasgow Report No 64110*

2m.10.38.—Transfer. (MADE IN ENGLAND.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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