

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 27 JUL 1942

Date of writing Report.....19..... When handed in at Local Office 16-7-1942 Port of Newcastle on Tyne

No. in Survey held at South Shields Date, First Survey 9<sup>th</sup> June Last Survey 7<sup>th</sup> July 1942  
Reg. Book.

36501 on the EMPIRE HAZLITT

Built at South Shields By whom built J. Reekheads & Sons Ltd Yard No. 528 Tons { Gross 7036  
Net 4933  
When built 1942

Owners Ministry of War Transport Port belonging to Newcastle on Tyne

Electrical Installation fitted by Sunderland Toys &amp; Engineering Co Ltd Contract No. When fitted 1942

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. No

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

Heating No Power Yes Direct or Alternating Current, Lighting Direct Power Direct 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 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, aft bulkhead

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 "Sindano" 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

single throw, quick break knife switches and double pole fuses.

and for each outgoing circuit Double pole, double throw quick break knife 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 Taps connected to earth via switches &amp; 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 1.5 lb/in<sup>2</sup> 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



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.	Flash Point of Fuel.
MAIN	No. 1	15	110	165		Steam engine	—	—
	No. 2	15	110	165		" "	—	—
EMERGENCY ...								
ROTARY TRANSFORMER								

## 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.	Flash Point of Fuel.
MAIN	No. 1	1	15	110	165	Steam engine	-	-
	No. 2	1	15	110	165		-	-
EMERGENCY								
ROTARY TRANSFORMER								

## GENERATOR CABLES

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return fest).	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 ... ..	15	2	19/064	145	288 ✓	30'-0"	Paper	Impregnated start tube
" " EQUALISER ... ..	15	2	19/064	167	288 ✓	30'-0"	"	" " "
EMERGENCY GENERATOR ... ..								
ROTARY TRANSFORMER: MOTOR ... ..								
GENERATOR ... ..								

### MAIN DISTRIBUTION CABLES.

[illegible]

## LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	13	46	525'	YIR	In accommodation with table
NAVIGATION LIGHTS	1	3/036	2	10	402'	"	" " " "
LIGHTING AND HEATING							
Cargo lights	1	7/064	17.5	46	66'	"	" " " "
Galley accommodation	1	7/064	16.5	46	396'	"	" " " "
Cabinets	1	7/036	9.5	10	66	"	" " " "
Life	1	7/064	13	46	330	"	" " " "
Engine & boiler rooms	1	7/044	20	31	82	"	" " " "

## MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.
<i>Refrigerator motor</i>	<i>1</i>	<i>7-036</i>



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.

*H. J. Gurney*

Electrical Engineers.

Date *9-4-1942*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *154'-0"*

Minimum distance between electric generators or motors and steering compass *180'-0"*

The nearest cables to the compasses are as follows:—

A cable carrying *3* Ampères *inside* feet from standard compass — feet from steering compass.

A cable carrying *3* 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 Readhead*

Builder's Signature.

Date

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 *16<sup>th</sup> Feb 1942*

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith *no follow*

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.) *The electrical*

*equipment of this vessel was installed under special survey and in accordance with the approved plans and with the specification. The materials used are of good quality and the workmanship is good. On completion the equipment was operated under working conditions with satisfactory results and the insulation resistance of all circuits and apparatus measured and found good. This equipment is in my opinion suitable for a classed vessel.*

*Noted*

*L.F.*

*30/7/42*

Total Capacity of Generators *30* Kilowatts.

The amount of Fee ... £ *28: 2* When applied for, *24 JUL 1942*

Travelling Expenses (if any) £ : : When received, *19*

Committee's Minute *See NWC 2E 100567*

Assigned

*A. H. Cornell*

Surveyor to Lloyd's Register of Shipping.