

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

17 MAY 1932

Date of writing Report

19

When handed in at Local Office

10/5/1932

Port of NEWCASTLE-ON-TYNE

No. in Survey held at NEWCASTLE ON TYNE.

Date, First Survey 16 Dec 31 Last Survey 27 June 1932

Reg. Book.

(Number of Visits.....)

on the ss. BELLE ISLE

Tons { Gross  
Net

Built at NEWCASTLE ON TYNE By whom built SWAN HUNTER &amp; W.R. LTD Yard No. 1475 When built 1932

Owners SWAN HUNTER &amp; W.R. LTD. Port belonging to NEWCASTLE ON TYNE.

Electric Light Installation fitted by SWAN HUNTER &amp; W.R. LTD Contract No. 1475 When fitted 1932

Is the Vessel fitted for carrying Petroleum in bulk No.

## System of Distribution

Double Wire

Pressure of supply for Lighting 110 volts, Heating - volts, Power 110 volts.

Direct or Alternating Current, Lighting Direct Power Direct

If alternating current system, state frequency of periods per second -

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding rating Yes, are they compound wound Yes

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator -

Where more than one generator is fitted are they arranged to run in parallel No, is an adjustable regulating resistance fitted in series with each shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

Position of Generators Engine Room Port side

is the ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators - and - are the generators protected from mechanical injury and damage from water, steam or oil Yes

are their axes of rotation fore and aft main dynamo fore &amp; aft. Emergency dynamo athwartship (see London letter 22/12/31)

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generators in metallic contact Yes

Main Switch Boards, where placed Engine Room Port side.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard -

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes

are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards - and -

are they constructed wholly of durable, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of permanently high insulation resistance Yes, if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes and is the frame effectively earthed Yes Are the fittings as per Rule regarding: - spacing or shielding of live parts

Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches D.P. switch &amp; fuses for dynamo. D.P. switch &amp; fuses for Emergency Switch board feed. S.P. switches and D.P. fuses for remaining outgoing circuits.

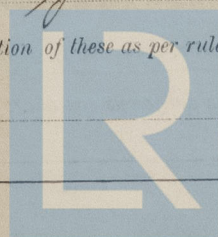
Instruments on main switchboard 1 ammeters 1 voltmeters - synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth lamps

connected to earth through switches &amp; fuses.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules. Yes

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes



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Cables: Single, twin, concentric, or multicore Single are the cables insulated and protected as per Tables IV or V of the Rules Yes  
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 4.1 volts

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound —

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage Yes

Support and Protection of Cables, state how the cables are supported and protected L.C. in Accommodation and Crew Quarters, L.C. & A in Machinery Spaces, V.I.R. in Conduit through Holds.

If cables are run in wood casings, are the casings and caps secured by screws —, are the cap screws of brass —, are the cables run in separate grooves —. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII Yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements —

Joints in Cables, state if any, and how made, insulated, and protected none

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas —  
—, are their connections made as per Rule —

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven Dynamo room on boat deck. Dynamo driven by Petrol-paraffin engine. Emergency switchboard contains: D.P. change-over switch for main & emergency supply with D.P. fuses. S.P. switches & D.P. fuses for each outgoing circuit. 1/2 Ammeter 1/2 Voltmeter. Earth lamps with switches & fuses.

Navigation Lamps, are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes

are the switches and fuses grouped in a position accessible only to the officers on watch Yes  
has each navigation lamp an automatic indicator as per Rule Yes

Secondary Batteries, are they constructed and fitted as per Rule —

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes  
are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected none

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected none  
—, how are the cables led —

where are the controlling switches situated —

Searchlight Lamps, No. of —, whether fixed or portable —, are their fittings as per Rule —

Arc Lamps, other than searchlight lamps, No. of —, are their live parts insulated from the frame or case —, are their fittings as per Rule —

Motors, are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes

are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes

are they protected from mechanical injury and damage from water, steam or oil Yes, are their axes of rotation fore and aft Yes  
if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type —, if not of this type, state distance of the combustible material horizontally or vertically above the motors — and —

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule Yes

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule —

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings —

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office —

# PARTICULARS OF GENERATING PLANT.

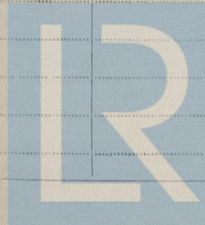
DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	12 1/2	110	114	520	S.C. Steam Engine		
AUXILIARY ...	1	10	125	80	475	" " " " " 6 1/2 - 5"	Lighter oil	142
EMERGENCY ...	1	3	110	27	850	S.C. Petrol-paraffin Engine		
ROTARY TRANSFORMER								

## GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	1	.10090	19	.083	114	118	26	V.I.R.	L.C. & A.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR...									
EMERGENCY GENERATOR	1	.01462	7	.052	27	37	20	do	L.C.
ROTARY TRANSFORMER									
ENGINE ROOM... } MOTOR GENERATOR...	1	.00455	7	.029	10.5	18.2	80	do	L.C. & A.
BOILER ROOM... }									
AUXILIARY SWITCHBOARDS									
NAVIGATION	1	.00455	7	.029	4	18.2	240	do	L.C.
BOAT LIGHTS	1	.00299	3	.036	1	12	80	do	do
EMERGENCY LIGHTING	1	.00701	7	.036	16	24	20	do	do
ACCOMMODATION 1 <sup>st</sup> CLASS	1	.03960	19	.052	53	64	120	do	do
do 2 <sup>nd</sup> CLASS	1	.00455	7	.029	4.4	18.2	200	do	do
do CREW	1	.02214	7	.064	23	46	150	do	do
FEED TO EMERGENCY SWITCHBOARD	1	.01462	7	.052	25	37	180	do	do
WIRELESS	1	.01046	7	.044	4.5	31	50	do	do
SEARCHLIGHT									
MASTHEAD LIGHT	1	.00194	3	.029	3	7.8	240	do	do
SIDE LIGHTS	1	.00194	3	.029	3	7.8	70	do	do
COMPASS LIGHTS	1	.00194	3	.029	1	7.8	30	do	do
POOP LIGHTS	1	.00194	3	.029	3	7.8	450	do	do
CARGO LIGHTS	1	.00194	3	.029	1.3	7.8	120	do	do
LAMPS DECK	1	.00194	3	.029	1.4	7.8	180	do	do
HEATERS									

## MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS...										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR...										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										
REF. AIG. MOTOR	1	1	.00701	7	.036	16	24	180	V.I.R.	L.C.



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All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

For

SWAN. HUNTER. & WIGHAM RICHARDSON. LTD.

Electrical Engineers.

Date

5<sup>th</sup> May 1932.

#### COMPASSES.

Distance between electric generators or motors and standard compass

100 ft approx

Distance between electric generators or motors and steering compass

95 ft approx

The nearest cables to the compasses are as follows:—

A cable carrying 1 Ampères in feet from standard compass 4 feet from steering compass.

A cable carrying 1 Ampères 4 feet from standard compass in feet from steering compass.

A cable carrying 4 Ampères 10 feet from standard compass 6 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.

For

SWAN. HUNTER. & WIGHAM RICHARDSON. LTD.

Builder's Signature.

Date

5<sup>th</sup> May 1932

W. A. Hunter

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

General Remarks (State quality of workmanship, opinions as to class, &c. This installation has been fitted in)

board under special survey and has been tested under full working conditions and found satisfactory. The materials and workmanship have been found to be good and sound.

It is submitted that  
this vessel is eligible for  
THE RECORD

See light

18/5/32

Total Capacity of Generators 15 1/2 Kilowatts.

The amount of Fee ...

£ 15 : 10

When applied for,

14 MAY 1932

Travelling Expenses (if any) £

When received,

25/5/32

L. C. Clayton

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 20 MAY 1932

Assigned

See light



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