

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) - 8 SEP 1939
Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office.....4/9/39 Port of Newcastle-on-Tyne

No. in Survey held at Newcastle (Wallsend) Date, First Survey 10 Aug Last Survey 28 Aug 1939
Reg. Book. (Number of Visits.....6.....)

25751 on the M.V. HAV Tons { Gross..... Net.....

Built at Newcastle (Wallsend) By whom built Swan Hunter & Wigham Rich Yard No. 1567 When built 1939

Owners Helmer Staabo & Co Port belonging to OSLO

Electrical Installation fitted by Swan Hunter & Wigham Richardson Contract No. 1567 When fitted 1939

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 Voltage of supply for Lighting 110v

Heating - Power 110v Direct or Alternating Current, Lighting Direct Power Direct 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 No, 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 - 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 side

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 Ebony Sindonyo, 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

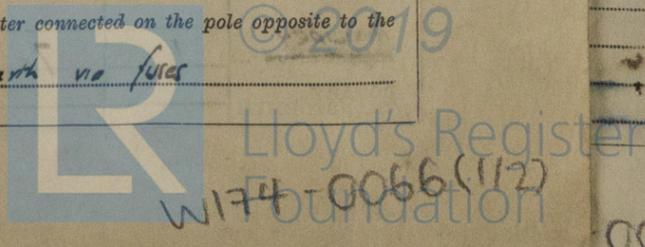
Double-pole Knife switches and double pole fuses

and for each outgoing circuit Double pole changeover Knife switches & double pole fuses

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

ammeters 3 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 lamp coupled to earth via 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, are the reversed current-protection devices connected on the pole opposite to the equaliser connection -, have they been tested under working conditions -. 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 3.5 V., 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. L.C.A. Are cables in machinery spaces, galleys, laundries, etc., lead covered YES or run in conduit -. State how the cables are supported and protected L.C.A. cleated on to perforated metal trays.

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. AUXILIARY Emergency Supply, state position Engine room starboard side. and method of control Double pole switch and double-pole fuses. 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 -, 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 -. 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 YES. 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 -. 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	25	110	228	600	Single cyl. vert. steam engine		
AUXILIARY	1	7	110	64	1000	Diesel	Above 150° F	
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel For Fols.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	25	1	37/093	228	243	80	V.C.	L.C.A.
" " EQUALISER								
AUXILIARY GENERATOR	7	1	19/064	64	83	30	V.I.R.	L.C.A.
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
Workshop & crane	1	19/064	72	83	45	V.I.R.	L.C.A.
Wireless	1	7/084	15	31	100	V.I.R.	L.C.A.
Navigation	1	7/029	4	18.2	100	V.I.R.	L.C.A.
Officers accommodation	1	7/084	22	31	80	V.I.R.	L.C.A.
Engn. & P.O.'s	1	7/084	20	31	60	V.I.R.	L.C.A.
Cargo	1	19/052	46.5	64	120	V.I.R.	L.C.A.
Crew's accomm. aft	1	7/084	15	31	210	V.I.R.	L.C.A.
Engine room lighting	1	7/064	28	46	80	V.I.R.	L.C.A.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS							
NAVIGATION LIGHTS							
LIGHTING AND HEATING							

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (load plus return feet).	INSULATED WITH.	HOW PROTECTED.
Boiler circulating pump	2	3	7/084	27.7	31	60	V.I.R.	L.C.A.
Fuel oil priming pump	1	1.5	7/029	13.5	18.2	70	V.I.R.	L.C.A.
Lub. oil pump	1	3.5	7/084	28.7	31	102	V.I.R.	L.C.A.
Fuel oil pump	1	3.5	7/084	28.7	31	102	V.I.R.	L.C.A.
Crane motor	1	2	7/084	27.7	31	80	V.I.R.	L.C.A.
Lathe motor	1	3	7/084	27.7	31	65	V.I.R.	L.C.A.
Drilling machine	1	1.5	7/029	13.8	18.2	45	V.I.R.	L.C.A.
Shaping machine	1	2	7/029	16	18.2	45	V.I.R.	L.C.A.

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.

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

W. H. Richardson

Electrical Engineers.

Date

30th Aug 1939

COMPASSES.

Minimum distance between electric generators or motors and standard compass..... *80'*

Minimum distance between electric generators or motors and steering compass..... *90'*

The nearest cables to the compasses are as follows:—

A cable carrying *14* Ampères *inside* feet from standard compass *and* feet from steering compass.

A cable carrying *22* Ampères *15* feet from standard compass *20* 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.

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

W. H. Richardson

Builder's Signature.

Date

30th Aug 1939

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 installed under Special Survey. The equipment has been tested under working conditions & insulation resistance of each circuit measured and found satisfactory. The materials used and the quality of the workmanship is good. In my opinion the installation is suitable for a classed vessel.

W. H. Richardson
17/10/39

Total Capacity of Generators..... *57* Kilowatts.

The amount of Fee £ *28 : 4* : { When applied for, *6 SEP 1939*

Travelling Expenses (if any) £ : : { When received, *14/9/39*

W. H. Brown

Surveyor to Lloyd's Register of Shipping.

TUE 17 OCT 1939

Committee's Minute

Assigned..... *See Nwc. No. 97822*

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

