

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

16 SEP 1935

Received at London Office

Date of writing Report 14-9-1935 When handed in at Local Office 14-9-1935 Port of Aberdeen

No. in Survey held at Aberdeen
Reg. Book.

Date, First Survey 20-8-35 Last Survey 7-9-1935

(Number of Visits 4)

on the steam trawler "WHITE PIONEER"

Tons { Gross 270.50
Net 117.94

Built at Aberdeen

By whom built

J. Lewis & Sons Ltd. Yard No. 134

When built 1935

Owners Messrs White Trawlers Ltd.

Port belonging to

Newcastle-on-Tyne.

Electric Light Installation fitted by J. Lewis & Sons, Ltd.

Contract No.

When fitted 1935.

Is the Vessel fitted for carrying Petroleum in bulk

No.

System of Distribution

Two wire.

Pressure of supply for Lighting

110

volts, Heating

volts, Power

volts.

Direct or Alternating Current, Lighting

Direct Current.

Power

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 temperature rise

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

-

is an adjustable regulating resistance fitted in

series with each shunt field

-

Have certificates of test results for machines under 100 kw. been submitted and

approved attached.

✓

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing

✓

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

Starboard side of engine room.

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

yes

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

In engine room near dynamo.

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

is it of an approved type

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

✓

is the non-hygroscopic insulating material of an approved

type

✓

and is the frame effectively earthed

-

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

temperature rise of

omnibus bars

yes

individual fuses to voltmeter, pilot or earth lamp

yes

are moving parts of switches alive in the

"off" position

no

are all screws and nuts securing connections effectively locked

yes

are any fuses fitted on the live side of

switches

no

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

D.P. switch & D.P. fuses to generator. S.P. switch & D.P. fuses to each outgoing circuit.

Are turbine driven generators fitted with emergency trip switch as per rule

✓

Are cupboards or compartments containing switchboards composed of

fire-resisting material or lined with approved material

✓

Instruments on main switchboard

one

ammeters

one

voltage

-

synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

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

Earth lamps.

Switches, Circuit Breakers and Fusible Cut-outs,

do these comply with the requirements of the Rules

yes

are the fusible cutouts of an approved type

yes

have the reversed

current protection devices been tested under working conditions ✓

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

Cables: Single, twin, concentric, or multicore single are the cables insulated and protected as per Tables IV, V, X or XI of the Rules yes

If the cables are insulated otherwise than as per Rule, are they of an approved type yes 3 volts

any point of the installation under maximum load yes

area of 0.04 square inch and above provided with soldering sockets yes

Paper Insulated and Varnished Cambric Insulated Cables.

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound ✓ or waterproof insulating tape ✓

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 Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit lead covered

Support and Protection of Cables, state how the cables are supported and protected Clipped to under side of decks & to bulkheads.

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, are the cables and fittings in accordance with the special requirements none

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. Through earth lamps

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 none

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 no 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

are the cables led ✓

where are the controlling switches situated ✓

are all fittings suitably ventilated ✓, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule none, are air heaters constructed and fitted as per Rule ✓

Searchlight Lamps, No. of none, whether fixed or portable ✓, are their fittings as per Rule ✓

Are Lamps, other than searchlight lamps, No. of none, are their live parts insulated from the frame or case ✓, are their fittings as per Rule ✓

Motors, are their working parts readily accessible none, are the coils self-contained and readily removable for replacement ✓

are the brushes, brush holders, terminals and lubricating arrangements as per Rule ✓, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material ✓, are they protected from mechanical injury and damage from water, steam or oil ✓ are their axes of rotation fore and aft ✓, 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 ✓

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing ✓ Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule ✓

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 ✓ are all fuses of the filled 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 type approved by the Home Office ✓

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule 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.	Flash Point of Fuel.	
MAIN	One	3.5	110	32	550	Steam engine.			
AUXILIARY									
EMERGENCY									
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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	0.0600	19	.064	29.84	83	20	V.I.R.	Steel tube.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM.									
BOILER ROOM.	1	0.0030	3	.036	1.45	12	60	V.I.R.	L.C. & armoured
AUXILIARY SWITCHBOARDS	1	"	"	"	.36	"	110	"	"
1. NAVIGATION.	1	"	"	"	2.97	"	108	"	"
2. FISHROOM, DECK, etc.	1	0.0070	7	.036	17.74	24	108	"	"
3. MACHINERY SPACE	1	0.0030	3	"	6.20	12	on hand	"	"
4. FORECASTLE.	1	"	"	"	2.93	12	170	"	"
ACCOMMODATION Cabin	1	0.0020	3	.029	1.82	7.8	40	"	L.C. & braided.
" 7de.	1	"	"	"	1.10	"	80	"	L.C. & armoured.
Fishroom, Port.	1	"	"	"	1.45	"	100	"	L.C. & armoured.
" Starb.	1	"	"	"	1.10	"	100	"	"
Carg. & Whulhouse 5' each	1	"	"	"	2.73	"	100	"	"
WIRELESS Telegraphy.	1	"	"	"	7.00	"	24	"	L.C.
FLOODLIGHT. Port.	1	"	"	"	1.36	"	90	"	L.C. & armoured.
Starboard.	1	"	"	"	.36	"	180	"	"
MASTHEAD LIGHT 3 @	1	"	"	"	.36	"	24	"	"
SIDE LIGHTS Port. each.	1	"	"	"	.36	"	16	"	L.C.
COMPASS LIGHT	1	"	"	"	.36	"	46	"	L.C. & armoured.
Port LIGHT	1	"	"	"	.23	"	20	"	L.C.
WORM LAMP.	1	"	"	"	.23	"		"	
CARGO LIGHTS									
ARC LAMPS									
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 Nominal 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										

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

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

The foregoing is a correct description.

JOHN LEWIS & SONS Ltd.

C. C. Wilson

Electrical Engineers.

Date *12th Sept. 1935.*

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

about 41 ft.

The nearest cables to the compasses are as follows:—

A cable carrying *17.74* Amperes feet from standard compass *5* feet from steering compass.

A cable carrying *2.97* Amperes feet from standard compass *5* feet from steering compass.

A cable carrying *.23* Amperes feet from standard compass *to* 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

degrees on

course in the case of the standard

compass, and

m

degrees on

any

course in the case of the steering compass.

JOHN LEWIS & SONS Ltd.

C. C. Wilson

SHIPYARD MANAGER

Builder's Signature.

Date *12th Sept. 1935.*

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.)

The electrical installation of this vessel has been fitted on board under Special Survey, tried under working conditions, and found good. The materials and workmanship are good. The installation is eligible in my opinion to have the record "Electric Light" in the Register Book.

*Noted
L.H.
17/9/35.*

Total Capacity of Generators *3.5* Kilowatts.

The amount of Fee ... £ *3* : -

When applied for,

11-9-1935

Travelling Expenses (if any) £

When received.

10-12-1935

11/12

P. Fitzgerald.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 24 SEP 1935

TUE. 10 DEC 1935

Assigned

See NWC 92985



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Foundation