

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

11 JUL 1936

Received at London Office

Date of writing Report 9th July 1936 When handed in at Local Office 9th July 1936 Port of Aberdeen
 No. in Survey held at Aberdeen Date, First Survey 22nd June Last Survey 4th July 1936
 Reg. Book. on the Steam Trawler "MOUNT KEEN" (Number of Visits 3)
 Tons { Gross 248.56
 Net 112.83
 Built at Aberdeen By whom built J. Lewis & Son Ltd Yard No. 137 When built 1936
 Owners Dodd's Steam Towing Co Ltd Port belonging to Aberdeen
 Electric Light Installation fitted by John Lewis & Son Ltd Contract No. - When fitted 1936
 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 YesGenerators, do they comply with the requirements regarding temperature rise Yes, are they compound wound Yesare 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 ✓ 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 YesPosition of Generators Starboard side of engine room., is the ventilationin 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 YesEarthing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generatorsin 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 mechanicalinjury 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

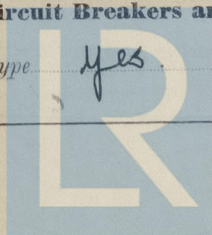
Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise ofomnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the"off" position Yes are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side ofswitches No ✓ Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switchesD.P. switch & D.P. fuses to Generator. S.P. switch & S.P. fuses to outgoing circuits. ✓

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

voltmeters ✓ 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 Twin 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. ✓ **Fall of Pressure,** state maximum between bus bars and
any point of the installation under maximum load. 3 Volts. **Cable Sockets,** are the ends of all cables having a sectional
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 underside of decks
and 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 lamp.

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

where are the controlling switches situated. ✓
are all fittings suitably ventilated. ✓, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials. ✓
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. ✓
Arc 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. ✓ **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. ✓ 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 | 83.0 | 20 | V. I. R. | Steel Tube |
| EQUALISER CONNECTIONS | | | | | | | | | |
| AUXILIARY GENERATOR... | | | | | | | | | |
| EMERGENCY GENERATOR | | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | | |
| MOTOR GENERATOR... | | | | | | | | | |
| ENGINE ROOM 2 CIRCUITS | | | | | | | | | |
| BOILER ROOM 2 EACH | 1 | 0.0030 | 3 | .036 | 1.65 | 12.0 | 60 | V. I. R. | L.C. & armoured |
| ENGINE ROOM 2 BOYES | 1 | " | " | " | .36 | " | 110 | " | " |
| AUXILIARY SWITCHBOARDS | 1 | " | " | " | 2.97 | " | 108 | " | " |
| (1) NAVIGATION | 1 | " | " | " | 17.74 | 24 | " | " | " |
| (2) FISH ROOM, ETC. | 1 | 0.0070 | 4 | " | 6.20 | 12 | ON BOARD | " | " |
| (3) MACHINERY SPACE | 1 | 0.0030 | 3 | " | 2.93 | " | 170. | " | " |
| (4) FORECASTLE | 1 | " | " | " | | | | " | " |
| ACCOMMODATION CABIN... | 1 | 0.0020 | 3 | .029 | 1.82 | 4.8 | 40 | " | L.C. & braided |
| " FOYER | 1 | " | " | " | 1.10 | " | 80 | " | L.C. & armoured |
| FISH ROOM, PORT | 1 | " | " | " | 1.45 | " | 100 | " | " |
| " STARBOARD | 1 | " | " | " | 1.10 | " | 100 | " | " |
| CASING WHEELHOUSE EACH. | 1 | " | " | " | 2.73 | " | 100 | " | " |
| WIRELESS TELEPHONY... | 1 | " | " | " | 4.00 | " | 24 | " | L.C. |
| FLOODLIGHT EACH. | 1 | " | " | " | 1.36 | " | 90 | " | L.C. & armoured |
| MASTHEAD LIGHTS (3)... | 1 | " | " | " | .36 | " | 180 | " | " |
| SIDE LIGHTS EACH. | 1 | " | " | " | .36 | " | 24 | " | " |
| COMPASS LIGHTS | 1 | " | " | " | .23 | " | 16 | " | L.C. |
| STEERING LIGHT | 1 | " | " | " | .36 | " | 46 | " | L.C. & armoured |
| MORSE LAMP | 1 | " | " | " | .23 | " | 20 | " | L.C. |
| 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. Wilby

Electrical Engineers.

Date *24th June 1936*

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

About 41 feet.

The nearest cables to the compasses are as follows:—

A cable carrying *14.44* Ampères ☒ feet from standard compass *5* feet from steering compass.

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

A cable carrying *2.3* Ampères ☒ 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 *no* degrees on *any* course in the case of the steering compass.

JOHN LEWIS & SONS Ltd.

C. Wilby

Builder's Signature.

Date *24th June 1936*

SHIPYARD MANAGER

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *WHITE PIONEER ABN RPT 18214*

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 found good. The materials & workmanship are good

Notes

Min

14.7.36

Total Capacity of Generators *3.5* Kilowatts.

The amount of Fee ... £ *3* : - : { When applied for, 19

Travelling Expenses (if any) £ : : { When received, *17.9.36* 19

J. A. Wilby

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 14 JUL 1936

Assigned

See Abn. 76 185-70



© 2021

Lloyd's Register
Foundation