

Rpt. 13.

No. 133835

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 10/8/56 19... When handed in at Local Office... 19... Port of IPSWICH.

No. in Survey held at OULTON BROAD. Date, First Survey 10/10/55 Last Survey 10/8/56
Reg. Book. (No. of Visits 16.)

40903 on the MOTOR TRAWLER "MUKSUN" Tons { Gross 684.37
Net 225.75

Built at OULTON BROAD. By whom built BROOKE MARINE LTD. Yard No. 243 When built 1950.

Owners V/O SUDIMPORT. Port belonging to MURMANSK.

Installation fitted by LOWESTOFT ELECTRICAL CO LTD When fitted 1956.

Is vessel equipped for carrying Petroleum in bulk NO Is vessel equipped with D.F. YES E.S.D. YES Gy. TO BE FITTED C.W.U.S.S.R. NO Sub. Sig. NO Radar NO

Plans, have they been submitted and approved YES System of Distribution TWO WIRE Voltage of Lighting 220

Heating NONE Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency -

Prime Movers, has the governing been found as per Rule when full load is thrown on and off YES Are turbine emergency governors fitted with a trip switch - Generators, are they compound wound YES, and level compounded under working conditions YES

Are the generators arranged to run in parallel NO Is the compound winding connected to the negative or positive pole NEGATIVE

Have machines 100 kw and over been inspected by the Surveyors during manufacture and testing YES Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule YES Position of Generators PORT FWD 146 K.W. TRAWL WINCH GEN^R

& 53 KW GEN^R (BOTH DRIVEN BY ONE AUX ENG), PORT AFT, 50 KW GEN^R. STBD 18 KW GEN^R (LIGHTING ONLY).

is the ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil YES Switchboards, where 15 main switchboard placed STBD SIDE ENGINE ROOM,
AFT END OF UPPER PLATFORM

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil YES, what insulation is used for the panels SHEET STEEL DEAD FRONT BOARD WITH "SYNDANYO", 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 construction as per Rule, including locking of screws and nuts YES Description of Main Switchgear

for each generator and arrangement of equaliser switches DOUBLE POLE SWITCHES WITH OVERLOAD & LOW VOLTAGE RELEASE RELAYS.

NOTE :- VOLTAGE REGULATORS FITTED TO EACH GENERATOR

and the switch and fuse gear (or circuit breakers) for each outgoing circuit DOUBLE POLE CHANGE OVER SWITCHES UP TO & INCLUDING 30 AMPS, ROTARY SWITCHES FITTED, ABOVE 30 AMPS KNIFE SWITCHES FITTED AT BACK OF BOARD

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule - Instruments on main switchboard 4 ammeters 3 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided EARTH LAMPS

WITH METAL FILAMENT NOT EXCEEDING 30W Preference Tripping, state if provided NONE, and tested -

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES make of fuses DENNIS & ERSKINE HEAP, are all fuses labelled YES If circuit breakers are provided for the generators, at what overload do they operate 15% OVERLOAD WITH 10 SECONDS TIME LAG., and at what current do the reverse current protective devices operate 110 Cables, are they insulated and protected as per Rule 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 less than 6 1/2 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends 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 any cables laid under machines or floorplates COCHRAN BOILER so, are they adequately protected YES, IN STEEL CONDUIT. State type of cables (if in conduit this should also be stated) in machinery spaces V.I.R. (VARNISHED CAMBRIC ON TRAWL WINCH GEN^R) galleys V.I.R.

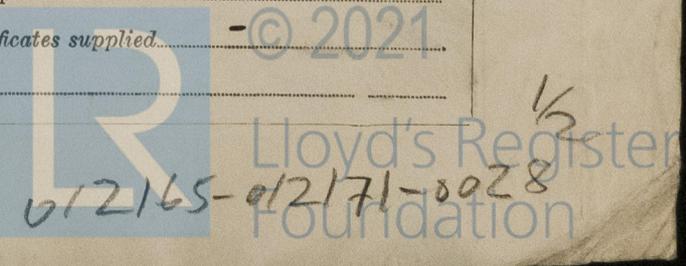
and laundries - State how the cables are supported or protected ON PERFORATED METAL TRAYS

SECURED BY BRASS SCREWS & CLIPS. CABLES LEAD SHEATHED, WIRE ARMoured & BRAIDED.

Are all lead sheaths, armoring and conduits effectually bonded and earthed YES 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 effectively bushed - Refrigerated chambers, are the cables and fittings as per Rule YES.

Have refrigeration fan motors been constructed under survey NONE and test certificates supplied -

Are the motors accessible for maintenance at all times -



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES. Emergency Supply, state position 1 KW LISTER EMERGEN LIGHTING SET INSTALLED P&A IN R. PORT SIDE. BATTERIES IN WELL VENTED EXTERNAL LOCKER ADJACENT TO WIRELESS ROOM

Navigation Lamps, are they separately wired YES controlled by separate double pole switches 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. Is an alternative supply provided YES

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule YES, state battery capacity in ampere hours 80 AMP HOURS & 24 VOLTS. Where required to do so does it comply with 1948 International Convention -

Lighting, is fluorescent lighting fitted NO. If so, state nominal lamp voltage - and compartments where lamps are fitted -

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof YES

Searchlights, No. of 1, whether fixed or portable FIXED, are they of the carbon arc or of the filament type FILAMENT

Heating and Cooking, is the general construction as per Rule NONE, are the frames effectually earthed -, are heaters in the accommodation of the convection type NONE. Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil YES

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment YES. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing YES

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule YES

Lightning Conductors, where required are they fitted as per Rule STEEL MASTS

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied with ABOVE 150° F, are all fuses of an Approved Cartridge Type -, make of fuse -. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships -. Are all cables lead covered as per Rule -

E.S.D., if fitted state maker BENDIX location of transmitter and receiver CHART ROOM ADJACENT TO WHEELHOUSE

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations YES

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory YES

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | MAKER. | RATED AT | | | | PRIME MOVER. | |
|---|--------|----------------------|--------------------|--------|-------|----------------|--------------|-------------------------------|
| | | | Kw. per Generator. | Volts. | Amps. | Revs. per Min. | TYPE. | MAKER. |
| MAIN NO1 | 1 | LAURENCE SCOTT LTD | 53 | 220 | 241 | 750 | DIESEL | MIRLLEES BICKERTON & DAY LTD |
| " NO2 | 1 | " " " | 50 | 220 | 227 | 1000 | " | MCLAREN LTD 4 cyl |
| LIGHTING NO3 | 1 | BRUSH ELEC CO LTD | 18 | 220 | 82 | 1000 | " | " " 2 cyl |
| EMERGENCY | 1 | H. J. SCOTT & CO LTD | 1 | 24/32 | 31 | 1500 | " | LISTER OIL ENGINES |
| ROTARY TRANSFORMER MOTOR TRAWL WINCH GENR | 1 | LAURENCE SCOTT LTD | 146 | 220 | 663 | 750 | " | MIRLLEES BICKERTON & DAY LTD. |

GENERATOR CABLES.

| DESCRIPTION. | No. of | Kw. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|------------------------------------|--------|-----|---------------------------|---|-----------------------------|-------|---|-------------------|----------------------|
| | | | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm. | In the Circuit. | Rule. | | | |
| MAIN GENERATOR NO1 | 1 | 53 | 1 | 37/.103 | 241 | 240 | 84 | VIR | LCWAB |
| " NO2 | 1 | 50 | 1 | 37/.103 | 227 | 240 | 58 | " | " |
| LIGHTING NO3 | 1 | 18 | 1 | 19/.083 | 82 | 118 | 38 | " | " |
| TRAWL WINCH GENERATOR | 1 | 146 | 2 | 37/.103 | 663 | 816 | 540 | VARNISHED CAMBRIC | LCWAB. |
| EMERGENCY GENERATOR | 1 | 1 | 1 | 7/.044 | 16 | 31 | 120 | V.I.R. | LCWAB. |
| ROTARY TRANSFORMER MOTOR GENERATOR | | | | | | | | | |

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

| DESCRIPTION. | No. of | Kw. | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm. | In the Circuit. | Rule. | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|------------------------------|--------|-----|---------------------------|---|-----------------|-------|---|-------------|----------------------|
| LIGHTING. | 1 | 19 | 1 | 19/.083 | 88 | 118 | 24 | VIR | LCWAB |
| WORKSHOP. | 1 | 7 | 1 | 7/.044 | 15 | 31 | 78 | " | " |
| VENTILATION & DOMESTIC. | 1 | 19 | 1 | 19/.064 | 69 | 83 | 54 | " | " |
| AUXILIARIES - 20% DIVERSITY. | 1 | 19 | 1 | 19/.064 | 98 | 83 | 24 | " | " |
| " - 40% " | 1 | 19 | 1 | 19/.083 | 85/139 | 118 | 24 | " | " |
| FISHMEAL PLANT. | 1 | 19 | 1 | 19/.083 | 97 | 118 | 236 | " | " |

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

| DESCRIPTION. | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm. | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|---------------------------|---------------------------|---|-----------------------------|-------|---|-------------|----------------------|
| | | | In the Circuit. | Rule. | | | |
| WIRELESS & D.F. | 1 | 7/.044 | 30 | 31 | 112 | VIR | LCWAB |
| NAVIGATION LIGHTS. | 1 | 7/.029 | 3 | 15 | 48 | " | " |
| " " (ALTERNATIVE CIRCUIT) | 1 | 7/.029 | 14 | 15 | 95 | " | " |
| EXTERNAL AFT | 1 | 7/.036 | 10 1/2 | 24 | 114 | " | " |
| " WHEELHOUSE | 1 | 7/.036 | 13 1/2 | 24 | 6 | " | " |
| " FORWARD | 1 | 7/.029 | 6 | 15 | 252 | " | " |
| INTERNAL AFT | 1 | 7/.029 | 5 | 15 | 12 | " | " |
| " " & CANNING. | 1 | 7/.036 | 12 1/2 | 24 | 26 | " | " |
| " WHEELHOUSE | 1 | 7/.029 | 9 | 15 | 3 | " | " |
| " AMIDSHIPS | 1 | 7/.036 | 13 | 24 | 192 | " | " |
| NAVIGATIONAL AIDS | 1 | 7/.029 | 2 1/2 | 15 | 44 | " | " |
| FISH HOLDS | 1 | 7/.029 | 6 | 15 | 40 | " | " |
| FISH MEAL | 1 | 7/.029 | 6 | 15 | 18 | " | " |
| ENGINE ROOM | 1 | 7/.029 | 7 1/2 | 15 | 42 | " | " |
| " " (ALTERNATIVE CIRCUIT) | 1 | 7/.029 | 7 1/2 | 15 | 44 | " | " |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm. | In the Circuit. | Rule. | APPROX. LENGTH (lead plus return feet). | INSULATION. | PROTECTIVE COVERING. |
|--|-----|----------|---------------------------|---|-----------------|-------|---|-------------|----------------------|
| COCHRAN BOILER F.D. FAN. | 1 | 1/2 | 1 | 7/.029 | 3 | 15 | 176 | VIR | LCWAB |
| CLARKSON " " " | 1 | 1/2 | 1 | 7/.029 | 3 | 15 | 48 | " | " |
| STAND BY CIRC PUMP | 1 | 8 1/2 | 1 | 7/.052 | 34 | 37 | 140 | " | " |
| L.O. PUMP & HEATER | 1 | 1 1/2 | 1 | 7/.052 | 34 | 37 | 132 | " | " |
| F.O. " " " | 1 | 1 1/2 | 1 | 7/.052 | 34 | 37 | 122 | " | " |
| DIESEL OIL TRANSFER PUMP | 1 | 1 1/2 | 1 | 7/.029 | 7 | 15 | 76 | " | " |
| BILGE PUMP P&S | 1 | TEACH | 1 | 7/.044 | 28 1/2 | 31 | 124 | " | " |
| BOILER OIL TRANSFER | 1 | 2 | 1 | 7/.029 | 9 1/2 | 15 | 80 | " | " |
| STAND BY L.O. PUMP | 1 | 9 | 1 | 7/.052 | 37 | 37 | 164 | " | " |
| F.O. CIRC PUMP | 1 | 1/4 | 1 | 7/.029 | 1 1/2 | 15 | 54 | " | " |
| AIR COMPRESSOR. | 1 | 15 | 1 | 19/.052 | 60 | 64 | 59 | " | " |
| FIRE PUMP | 1 | 8/16 1/2 | 1 | 19/.052 | 68 | 64 | 76 | " | " |
| STEERING GEAR. | 1 | 4 | 1 | 7/.044 | 17 | 31 | 124 | " | " |
| WINDLASS | 1 | 19 | 1 | 19/.064 | 74 | 83 | 264 | " | " |
| TRAWL WINCH MOTOR | 1 | 175 | 2 | 37/.103 | 663 | 816 | 540 | V.CAMBRIC | " |
| TRAWL WINCH EXCITATION | - | - | 1 | 7/.029 | 10 | 15 | 144 | VIR | " |

[Handwritten signature]
11/9/36

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. L. Cook

Electrical Contractors.

Date *9/8/56*

COMPASSES.



Have the compasses been adjusted under working conditions... *Yes.*

A. J. Bonten

Builder's Signature.

Date *3-8-56*

Have the foregoing descriptions and schedules been verified and found correct... *YES*

Is this installation a duplicate of a previous case... *YES* If so, state name of vessel. *MOTOR TRAWLER "PIONEER" SEE MS REPORT NO 132740*

Plans. Are approved plans forwarded herewith... If not, state date of approval.

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith... *YES.*

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

This electrical installation has been carried out by the Lowestoft Electrical Co Ltd in accordance with the approved plans, the Secretary's letters and the Requirements of the Society's Rules.

The completed installation was examined under working conditions when the generator governors and switchgear were found in order and operating satisfactorily. The insulation resistance of all circuits and components were taken on completion of the installation and found to be in accordance with the Rules requirements.

The workmanship throughout is good and in the opinion of the undersigned the electrical installation is eligible for inclusion in the LMC.

Total Capacity of Generators... *121* Kilowatts.

Excluding 146KW. trawl wind generator and 1KW 24V emergency lighting set.

The amount of Fee ... *£ 60 : 3 . 0* When applied for, *19.*

Trawl Wind *5 . 0 . 0*

Travelling Expenses (if any) *£ 4 : 10 0* When received, *19.*

G. Jacob

Surveyor to Lloyd's Register of Shipping.

Committee's Minute... *FRIDAY 28 SEP 1956*

Assigned... *See Rpt 46.*

2m.4.55 - Transfer. (MADE AND PRINTED IN ENGLAND) (The Surveyors are requested not to write on or below the space for Committee Minutes.)



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