Rpt. 13. No. 50189

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office AUG -4 1939

Date of writing Report ..... 19..... When handed in at Local Office 3 AUG 1939 19..... Port of HULL

No. in Reg. Book. - Survey held at Goole. Date, First Survey 16.6.39. Last Survey 31.7.1939. (Number of Visits 6)

on the Motor Vessel GLADONIA. Tons Gross 360 Net 178

Built at Goole. By whom built Goole S.B & Repg Co Ltd Yard No. 345 When built 1939-7

Owners ..... Port belonging to Keadby

Electrical Installation fitted by The Humber Electrical Engineering Co Ltd. Contract No. ✓ When fitted 1939-7

Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. No E.S.D. Yes Gy.C. No Sub.Sig. No

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Have plans been submitted and approved Yes. System of Distribution Parallel. Constant pressure two-wire. Voltage of supply for Lighting 110.

Heating ✓ Power 220 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 main-Yes., Aux.:- Shunt- are they level compounded under working conditions Slightly over., if not compound wound state distance between generators —— and —— switchboard 20 feet. 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 None. Have certificates of test for machines under 100 kw. been supplied Yes 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. Port side. Auxiliary driven from shafting in thrust recess., 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. port side forward.

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 Sindanyo., 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 Main Generator D.P. Contact Breaker. Auxiliary D.P. Linked Switch & D.P. Fuses. to both. Lights & battery.

and for each outgoing circuit D.P Linked Switches & D.P Fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule ✓. Instruments on main switchboard 2. ammeters 2 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 lamps & switches.

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 5 Power, 2½ Lights; are the ends of all cables having a sectional area of 0·04 square inch and above provided with soldering sockets All below size. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends ✓ with insulating compound ✓ or waterproof insulating tape ✓. 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 Conduit. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes. or run in conduit ✓. State how the cables are supported and protected Clipped to bulkheads etc or run in Conduit

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes. Refrigerated chambers, are the cables and fittings as per Rule None. 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 Yes and with what material lead. **Alternative Lighting,** are the groups of lights in the engine and boiler rooms arranged as per Rule Yes. **Emergency Supply,** state position None. Except batteries for wireless — On deck. and method of control ✓

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 Yes, are they adequately ventilated Yes. See letter re. Wireless Battery.

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 None, whether fixed or portable ✓ ✓, are their fittings as per Rule ✓. **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 ✓. **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 None. 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.

Renewed 3.47 Hull upset S1603

PARTICULARS OF GENERATING PLANT.

Description of Generator.	No. of	Rated at: Kilowatts.	Volts.	Ampères.	Revs. per Min.	Driven by	Where driven by an internal combustion engine: Fuel Used.	Flash Point of Fuel.
MAIN ...	One	16	220	73	1000	Newbury Diesel Engine	Heavy oil	Above 150°F.
Auxiliary	One.	2½	110/150	20	1250	Main Engine by belting	do	do
EMERGENCY ...	✓							
ROTARY TRANSFORMER	✓							

GENERATOR CABLES.

Description.	Kilowatts.	Conductors: No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	Maximum Current in Ampères: In the Circuit.	Rule.	Approx. Length (lead plus return feet).	Insulated with.	How protected.
MAIN GENERATOR	16	2	2 × 7/.064	73	92	40	V.I.R	Conduit
„ „ EQUALISER	✓							
Auxiliary Generator.	2½	One	7/.052	20	37	65	do	do
EMERGENCY GENERATOR	✓							
ROTARY TRANSFORMER: MOTOR	✓							
„ „ GENERATOR	✓							

MAIN DISTRIBUTION CABLES.

Description.		No. in Parallel Per Pole.	Sectional Area	In the Circuit.	Rule.	Approx. Length	Insulated with.	How protected.
AUX. SWITCHBOARDS AND SECTION BOARDS ...								
Accomodation.		One	3/.036	8	12	90	V.I.R	L.C + Armd.
Navigation		One.	7/.029.	12.	18.2	90	do.	Conduit.

LIGHTING AND HEATING, ETC., CABLES.

Description.		No. in Parallel Per Pole.	Sectional Area	In the Circuit.	Rule.	Approx. Length	Insulated with.	How protected.
WIRELESS		One.	7/.029	10	18.2	30	V.I.R.	Conduit.
NAVIGATION LIGHTS ... Mast head.		One.	3/.029	·6.	7.8.	150	do.	do.
LIGHTING AND HEATING		One.	1/.044	2.	6.1.	60.	do.	L.C
do Engine Room		One	3/.036	5	12	24	do	L.C + Armd.
Navigation Lights Remainder		One	1/.044	·6.	6.1	40	do	L.C. + Conduit.

MOTOR CABLES.

All important motors to be enumerated.	No.	B.H.P.	No. in Parallel Per Pole.	Sectional Area	In the Circuit.	Rule.	Approx. Length	Insulated with.	How protected.
Windlass.	One.		One	7/.044		31.	200.	V.I.R.	Conduit.
Winches Port.	One		One	do	28	do	140	do	do
„ Stard	One		One	do	28.	do.	160	do.	do.

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.

FOR THE HUMBER ELECTRICAL ENGINEERING CO.

W. E. Shuttleworth .... *Electrical Engineers.* *Date* ....

COMPASSES.

Minimum distance between electric generators or motors and standard compass ✓

Minimum distance between electric generators or motors and steering compass 60 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 25 *Ampères* ✓ *feet from standard compass* 40. ~~*feet from*~~ *steering compass.*

A cable carrying 12 *Ampères* ✓ *feet from standard compass* 8. *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 ....

The maximum deviation due to electric currents was found to be Nil *degrees on* any *course in the case of the* ~~*standard*~~ Steering *compass, and* ✓ *degrees on .... course in the case of the steering compass.*

PER PRO THE GOOLE SHIPBUILDING & REPAIRING CO. LTD.

E. F. Cragg .... *Builder's Signature.* *Date* ....

SECRETARY

Is this installation a duplicate of a previous case Yes *If so, state name of vessel* Similar to "Brendonia"

General Remarks *(State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)*

This Electric installation has been fitted on board under Special Survey in accordance with the Rules & when subjected to the tests prescribed & tried under working conditions was found satisfactory in every respect.

Noted

L. J.

11/8/39.

Total Capacity of Generators 18½. *Kilowatts.*

The amount of Fee	£ : :	When applied for,	............19......	
Split agreed fee (See Lr. to Hull 16/8/39)	£10 —			
Travelling Expenses (if any)	£ : :	When received.	6/10/1939	R.B.A. 1/3/40

Digby S. Mollowen

Surveyor to Lloyd's Register of Shipping.

FRI 18 AUG 1939

Committee's Minute ....

Assigned See FE mach'y rpt.

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

2m.10.38.—Transfer. (MADE IN ENGLAND.)