Rpt. 13.

No. 50895.

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office OCT 26 1940

Date of writing Report ..... 19..... When handed in at Local Office 23 OCT 1940 19..... Port of HULL

No. in Reg. Book. ..... Survey held at Hull Date, First Survey 14.8.40. Last Survey 8.10.1940 (Number of Visits 6.)

on the H.M.T. "MORRIS DANCE" Tons Gross 452 Net 142

Built at Goole By whom built Goole Shipbuilding & Repairing Co. Yard No. 351 When built 1940-10

Owners The Admiralty Port belonging to .....

Electrical Installation fitted by The Humber Electrical Engineering Co. Ltd. Contract No. ✓ When fitted 1940-10

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

Have plans been submitted and approved Yes System of Distribution Parallel - constant current two-wire Voltage of supply for Lighting 110

Heating 110 Power ✓ Direct or Alternating Current, Lighting Direct Power ✓ 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 ✓, 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, 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 Adjacent to generator

The Generators have been supplied & inspected by the Admiralty.

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 Units mounted on frame work insulated with mica strips, if of synthetic insulating material is it an Approved Type ✓, 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 D.P. Switches & Fuses.

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

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes **Instruments** on main switchboard One ammeters One 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, Megger.

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 4 volts, 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 ✓ 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 No, if so, are they adequately protected ✓. 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 trays or Bulk Heads. Cables run in solid drawn conduit through Bunkers & in magazine spaces.

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 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 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 No. **Secondary Batteries,** are they constructed and fitted as per Rule None, 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 Yes, if so, how are they protected Special Admiralty pattern Lamps in magazine with cables in conduit and where are the controlling switches fitted Platers men deck adjacent, are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes. **Searchlight Lamps,** No. of One, whether fixed or portable Portable, are their fittings as per Rule Yes. **Heating and Cooking,** is the general construction as per Rule Yes, are the frames effectually earthed Yes, are heaters in the accommodation of the convection type Yes. **Motors,** are all motors constructed and installed as per Rule None and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil ✓, 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 ✓. **Control Gear and Resistances,** are they constructed and fitted as per Rule ✓. **Lightning Conductors,** where required are they fitted as per Rule Yes. **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 Kilowatts.	Volts.	Amperes.	Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. Fuel Used.	Flash Point of Fuel.
MAIN	One	15	110	136	500	Steam Engine	✓	✓
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS. No. in Parallel Per Pole.	CONDUCTORS. Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES. In the Circuit.	MAXIMUM CURRENT IN AMPERES. Rule.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
MAIN GENERATOR	15	One	37/072	136	152	18	V.I.R.	L.C.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR ...								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS D. G.	One	7/044	30	31	—	V.I.R.	L.C.
Navigation	"	7/036	15	24	150	"	"
Winches	"	"	25	"	135	"	"
Shore connection	"	37/072	136	152	70	"	"
For'd Lighting	"	7/044	23	31	150	"	"
Aft do.	"	"	29	"	120	"	"
For'd Radiator	"	"	18	"	150	"	"
Aft do.	"	"	27	"	120	"	"
Sundic	"	"	—	"	—	"	"

LIGHTING AND HEATING, ETC., CABLES.

... ...	One	1/044	1·5 max	5	240 max	V.I.R.	L.C.
NAVIGATION LIGHTS	One	70/0076	do.	10	90 max	"	Tough Rubber Sheathing & in some case P.B. Braiding
LIGHTING AND HEATING							
R.P. Lighting	One	1/004	3 max	5	160 max	"	L.C.
Radiators & Hot Dish	"	3/036	9	10	80 max	"	"
Signalling Projector (Direct from Main Board)	"	7/036	19	24	140	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							

Table Lamps only

0193 3/2

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 Stutterroth .... Director .... *Electrical Engineers.* Date 21/Oct/40

COMPASSES.

Minimum distance between electric generators or motors and standard compass ....

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

The nearest cables to the compasses are as follows:—

A cable carrying .... *Ampères* .... *feet from standard compass* .... *feet from steering compass.*

A cable carrying .... *Ampères* .... *feet from standard compass* .... *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 ....

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 .... *degrees on* .... *course in the case of the standard compass, and* .... *degrees on* .... *course in the case of the steering compass.*

Numerous cables in vicinity of both compasses for lighting, wireless & Radio. Particulars of deviation not available. *

.... *Builder's Signature.* *Date* ....

Is this installation a duplicate of a previous case Yes *If so, state name of vessel* H.M.T Fandango.

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

This installation has been fitted on board in accordance with the approved Admiralty plans + requirements + the Society's Rules. The workmanship + materials are good and when subjected to the tests required by the Admiralty + prescribed in the Rules + also when tried under full working conditions this installation was found satisfactory in every respect.

Noted
L.Y.
31/10/40.

Total Capacity of Generators 15 *Kilowatts.*

The amount of Fee	£15 : 0 :	When applied for, 23 OCT 1940
Travelling Expenses (if any)	£ : :	When received. 17-12-1940

Digby H. Collinson
Surveyor to Lloyd's Register of Shipping.

FRI. 1 NOV 1940

Committee's Minute ....

Assigned See Hul F.E. 50895

2m,10,38.—Transfer. (MADE IN ENGLAND.) *(The Surveyors are requested not to write on or below the space for Committee's Minute.)*