Rpt. 13. No. 3270

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 23 DEC 1948

Date of writing Report 20th November 19 48 When handed in at Local Office 28th November 19 48 Port of Bergen.

No. in Reg. Book. Survey held at Bergen. Date, First Survey 26th May. Last Survey 24th July 1948 (Number of Visits 6)

✓ on the Steel Screw steamer "LYNGÅS" ex "HARRIS" ex "GILSAY." Tons Gross 532. Net 159

Built at Beverley By whom built Cook, Welton & Gemmell Ld. Yard No. 729. When built 1944.

Owners a/s. Sandskaars Reder Port belonging to Farsund.

Electrical Installation fitted by EGA A/S. Contract No. ✓ When fitted 1948

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

SEE SPL. NOTE S.R.L. (MACH'Y)

Have plans been submitted and approved Yes System of Distribution Two-wire Voltage of supply for Lighting 110. Heating ✓ Power 110. Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state periodicity ✓ Prime Movers, has the governing been tested and found as per Rule when full 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 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 ✓. Have certificates of test for machines under 100 kw. been supplied YES 1944. SEE PAGE 4. and the results found as per rule Yes. Are the lubricating arrangements and the construction of the generators as per rule Yes. Position of Generators Both at Starboard side engineroom., 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 Engineroom starboard side near generators.

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 Construction of Switchboard in accordance with Admiralty Standard Electrical Specifications Nos 3 and 4 as before., 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 Double pole quick break knife switch and double pole cartridge fuse

and for each outgoing circuit Double pole quick break knife switch and double pole cartridge fuse.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule ✓. Instruments on main switchboard One ammeters One voltmeter ✓ 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 as before

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. If circuit breakers are provided for the generators, at what overload current did they open when tested ✓, are the reversed current protection devices connected on the pole opposite to the equaliser connection ✓, have they been tested under working conditions, and at what current did they operate ✓. 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 V., 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 ends None fitted

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 All cables V.I.R. insulated and lead covered as minimum protection and clipped up on trays or in way accommodation to surface.

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 ✓ 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 ✓, are they adequately ventilated ✓ what is the battery capacity in ampère hours ✓. 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 ✓, whether fixed or portable ✓, are their fittings as per Rule ✓. Heating and Cooking, is the general construction as per Rule ✓, 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 ✓. Are motors coupled to oil fuel transfer and unit 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 ✓. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule No. Control Gear and Resistances, are they constructed and fitted as per Rule Yes. 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 ✓. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships ✓. Are the cables lead covered as per Rule ✓. 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 tested and found satisfactory 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	1	20	110.	182.	500	Messrs. READER SINGLE CYLINDER STEAM ENG.	✓	✓
EMERGENCY	1	7.5	110	68.	550.	-"- -"-	✓	✓
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	20.	1	120.	182		30.	V.I.R.	L.C.
" " EQUALISER								
EMERGENCY GENERATOR	7.5	1	25.	68.		40	V.I.R.	L.C.
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.
AUX. SWITCHBOARDS AND SECTION BOARDS							
FORECASTLE.	1	2.5	10		210.	V.I.R.	L.C. A. & B
ACCOMMODATION ON MAINDECK.	1	16	60		80	"	-"-
-"- " SUPERSTRUCTURE DECK.	1	16	60		20.	"	-"-
ON BRIDGE.	1	10	15		150	"	-"-
NAVIGATION SECTION BOARD. 2 CIRCUITS.	1	2.5.	15		150	"	-"-

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	4	20		150	V.I.R.	L.C. & B.
NAVIGATION LIGHTS SIDELIGHTS.	1	1.5	6		30	"	-"-
~~LIGHTING AND HEATING~~ FOREMAST HEADLIGHT	1	1.5	6		300	"	-"-
MAIN MAST HEADLIGHT.	1	1.5	6			"	-"-
STERNLIGHT	1	1.5	6		350	"	-"-
ENGINE ROOM	1	1.5	6		90	"	L.C. & B.
-"-	1	1.5	6		90	"	-"-
STOKEHOLD.	1	1.5	6		90	"	-"-
-"-	1	1.5	6.		90	"	-"-
STEERING GEAR SPACE & DECK AFT.	1	1.5	6		270	"	-"-
DECKLIGHTS	1	1.5	6		150	"	-"-

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
FAN IN ENGINEROOM.	1	1½	1	2.5	15		36	V.I.R	L.C.A.& B.
OIL FUEL TRANSFER PUMP.	1	1	1	2.5	15		120	"	-"-
-"- -"- -"-	1	¾	1	2.5	15		120	"	-"-

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.

Elektro-Generator Aksjeselskap *Electrical Engineers.* *Date* 20/11-48.
Bergen

COMPASSES.

Minimum distance between electric generators or motors and standard compass 52 ft.

Minimum distance between electric generators or motors and steering compass 50 ft.

The nearest cables to the compasses are as follows:—

A cable carrying .14 *Ampères* on the ~~*feet from*~~ *standard compass* 7 *feet from steering compass.*

A cable carrying .14 *Ampères* 7 *feet from standard compass* on the ~~*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 Yes

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

✓ *Builder's Signature.* *Date* ✓

Is this installation a duplicate of a previous case No. *If so, state name of vessel* ✓

Plans. *Are approved plans forwarded herewith* No. *If not, state date of approval* 10th. September 1947.

Certificates. *Are certificates of test for motors engaged on essential services and generators forwarded herewith* No.

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

The electrical equipment of this vessel has been installed under Special Survey in accordance with approved plan.
The materials used are of good quality and the workmanship is good.
The insulation has been tested and the installation tested under working conditions and found good
No test certificates available. The generators and main switchboard are the original ones.
An alternative circuit fitted to navigation switchboard.
This installation is, in my opinion, eligible to be classed

Total Capacity of Generators 27.5 *Kilowatts.*

The amount of Fee ... ... Kr. 250.- : When applied for, 7/8 1948

Travelling Expenses (if any) £ : : When received. 16/9 1948

ABOVE FEE INCLUDED IN RPT 9
SENT 25/9-48.

S. A. Ride. B. S. Wilson Jr.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 25 MAR 1949

Noted

Assigned

5m.4.39.—**Transfer.** (MADE AND PRINTED IN ENGLAND.)
(*The Surveyors are requested not to write on or below the space for Committee's Minute.*)