

Report on Electrical Equipment.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27 DEC 1950

Received at London Office

Date of writing Report 1st Dec. 1950. When handed in at Local Office 19th Dec. 1950. Port of Gothenburg

Survey held at Gothenburg. Date, First Survey 28th August. Last Survey 29th November 1950. (Number of Visits 29)

No. in Reg. Book. 95395 on the Motor Tanker "S L I E D R E C H T" Tons { Gross 10560 Net 6172

Built at Gothenburg. By whom built A-B. Lindholmens Varv. Yard No. 1013. When built 1950.

Owners Phs. van Ommeren N.V. Port belonging to Rotterdam.

Electrical Installation fitted by A-B. Lindholmens Varv. When fitted 1950.

Is vessel fitted for carrying Petroleum in bulk Yes. Is vessel equipped with D. F. Yes. E. S. D. Yes. Gy. C. Yes. Radar Yes.

Have plans been submitted and approved Yes. System of Distribution Two wire. Voltage of supply for Lighting 115.

Heating Power 230. Direct or Alternating Current, Lighting D.C. Power D.C. 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 Yes. are shunt field regulators provided Yes. Is the compound winding connected to the negative or positive pole

Negative. Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes. Have certificates of

test for machines under 100 kw. been supplied Yes. 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 2 x 140 KW. on starboard, 1 x 140 KW. on port side on E.R. floor.

1 x 40 KW. on a platform on port side in the Eng. Rm. 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 On a platform at the forward end in the engine room.

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 Mica. 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 A double pole linked circuit

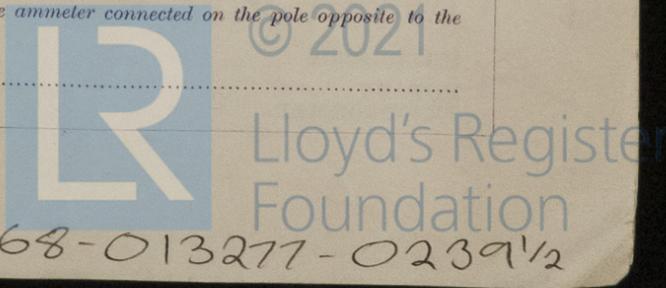
breaker with overload and reversed current trips and a single pole equaliser switch

and for each outgoing circuit A double pole switch and a fuse on each pole

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes. Instruments on main switchboard 8.

ammeters 5. voltmeters synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection Yes. Earth Testing, state means provided Ohm - meter



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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 Yes have they been tested under working conditions Yes

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 permit, 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 Yes with insulating compound --- or waterproof insulating tape 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 cables laid under machines or floorplates places if so, are they adequately protected Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit --- State how the cables are supported and protected Supported by metal clips. Cables lead covered and armoured, or steel wire braided. Where drawn behind panels run in conduits.

Are all lead sheaths, armoring and conduits effectually bonded and earthed Yes Refrigerated chambers, are the cables and fittings as per Rule 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 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 In a separate well ventilated compartment on poop deck and method of control Automatic

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 ---

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 Flameproof fittings. Cables drawn in gastight tubing.

and where are the controlling switches fitted Outside the compartment are all fittings suitably ventilated Yes

are all fittings and accessories constructed and installed as per Rule Yes **Searchlight Lamps**, No. of 1 whether fixed or portable Fixed 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 --- **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 --- 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 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 Yes are all fuses of the cartridge type Yes are they of an approved type Yes 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				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	140	230	610	450	Heavy oil engine	Diesel oil	Above 150° F.
	1	40	230	174	600	Steam engine	---	---
EMERGENCY								
ROTARY TRANSFORMER	2	33	115	287	1400	Electric motors	---	---

GENERATOR CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (Lead plus return) M.	INSULATED WITH	HOW PROTECTED.
		No. in Parallel Per Pole	Sectional Area sq. mm.	In the Circuit	Rule			
MAIN GENERATOR	140	3	95	610	726	18,18,26	Paper	Lead covered & armoured
" " EQUALISER	40	1	70	174	200	12	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR	50 BHP	1	70	185	200	16&20	"	"
" " GENERATOR	33 KW	2	50	287	318	16&20	"	"

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS								
Power Section Board	I	1	70	120	125	5	Rubber	Lead covered & armoured
" " "	II	1	70	110	125	38	"	"
" " "	III	1	25	48	63	70	"	"
" " "	IV	1	70	160	200	80	Paper	"
" " "	V	1	70	115	125	75	Rubber	"
" " "	VI	1	16	22	48	140	Rubber	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	6	--	29			Rubber	Lead covered & armoured
NAVIGATION LIGHTS	1	2.5	3	13			"	"
LIGHTING APPARATUS								
Distribution board I (Engine room)	1	16	35	48	4		"	"
" " II (Crew acc., p.s.)	1	25	25	63	30		"	"
" " III (Crew acc., s.s.)	1	25	25	63	30		"	"
" " IV (Eng's acc., s.s.)	1	25	30	63	60		"	"
" " V (Eng's acc., p.s.)	1	25	30	63	40		"	"
" " VI (Lower bridge acc. and pump room)	1	70	47	125	140		"	"
" " VII (Off. acc.)	1	70	45	125	145		"	"
" " VIII (Forecastle)	1	16	20	48	290		"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B. H. P.							
Main salt- and fresh water circulating pumps	2	40	1	50	148	159	18	Paper	Lead covered & armoured
Main salt- and fresh water spare pump	1	28	1	70	107	125	18	Rubber	"
Main lubricating oil pumps	2	62	1	120	227	282	14	Paper	"
Aux. eng. cooling water pumps	2	4.5	1	4	18.2	21	22	Rubber	"
Bilge pump	1	9	1	16	35.5	48	36	"	"
Fire pump	1	34	1	50	120	159	42	Paper	"
Transfer pump	1	6	1	6	25.4	29	42	Rubber	"
Manoeuvring compressors	2	60	1	120	230	282	16	Paper	"
Fuel needle valve cool.w.pump	1	2.5	1	2.5	9.5	13	10	Rubber	"
Turning motor	1	13	1	25	50	63	40	"	"
Emergency compressor	1	2	1	2.5	9.5	13	6	"	"
Purifiers	3	4	1	4	16.5	21	48	"	"
Steering engine	2	20	1	50	81	159	78	Paper	"
Circ.pump for the Spanner Boil	1	3	1	2.5	12	13	40	Rubber	"

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.

AKTIEBOLAGET LINDHOLMENS VARV
 ELEKTRISKA AVDELNINGEN

Trygve Ljodal

Electrical Engineers. Date *8/12-1950*

COMPASSES.

Minimum distance between electric ~~motors~~ motors and standard compass 11 Metres

Minimum distance between electric ~~motors~~ motors and steering compass 8 Metres

The nearest cables to the compasses are as follows:—

A cable carrying 3 Ampères 6 feet from standard compass 4 feet from steering compass.

A cable carrying 1.5 Ampères 4 feet from standard compass 4 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 0 degrees on every course in the case of the standard compass, and 0 degrees on every course in the case of the steering compass.

AKTIEBOLAGET LINDHOLMENS VARV

Erik Nilsson

Builder's Signature. Date *8/12-50*

Is this installation a duplicate of a previous case No If so, state name of vessel ---

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

This electric installation has been fitted in the vessel under my inspection and has been tested under full working power and found satisfactory.

The workmanship is good and all the Rule requirements have been complied with.

Lloyd's and Makers' certificates in respect of generators and motors are attached.

Noted sub 18/1/51

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

Total Capacity of Generators 460 Kilowatts.

The amount of Fee	Kr. 1430:00	When applied for, 19/12 1950.
Travelling Expenses (if any)	Kr. ---	

Sten Johansson
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 26 JAN 1951

Assigned *Su F.E. wchy. rpt.*

