

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

20 NOV 1928

Received at London Office

Date of writing Report 16<sup>th</sup> Nov 1928 When handed in at Local Office 16<sup>th</sup> Nov 1928 Port of GothenburgNo. in Survey held at Gothenburg Date, First Survey 13<sup>th</sup> Sept Last Survey 8<sup>th</sup> Nov 1928  
Reg. Book. (Supplement) (Number of Visits 12)91305 on the Steel Twin Screw Motorvessel "NIKE" Tons { Gross 9827  
Net 5514Built at Gothenburg By whom built A/B Götaverken Yard No. 413 When built 1928Owners Rederiaktiebolaget Transoil Port belonging to GothenburgElectric Light Installation fitted by Aktiebolaget Götaverken Contract No. 413 When fitted 1928System of Distribution Two-wire systemPressure of supply for Lighting 110 volts, Heating (Cooking) 220 volts, Power 220 volts.Direct or Alternating Current, Lighting Direct Power DirectIf alternating current system, state frequency of periods per second ---Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off YesGenerators, do they comply with the requirements regarding rating yes, are they compound wound yesare they over compounded 5 per cent. yes, if not compound wound state distance between each generator ---Where more than one generator is fitted are they arranged to run in parallel yes, is an adjustable regulating resistance fitted in series with each shunt field yesAre all terminals accessible, clearly marked, and furnished with sockets yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched yes Are the lubricating arrangements of the generators as per Rule yesPosition of Generators On a platform aft in the motor-roomis the ventilation in way of the generators satisfactory yes, are they clear of all inflammable material yesif situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators --- and ---, are the generators protected from mechanical injury and damage from water, steam or oil yesare their axes of rotation fore and aft yesEarthing, are the bedplates and frames of the generating plant efficiently earthed yes are the prime movers and their respective generators in metallic contact yesMain Switch Boards, where placed On a platform over the generators.If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard ---Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes yesare they protected from mechanical injury and damage from water, steam or oil yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards --- and ---are they constructed wholly of durable, non-ignitable non-absorbent materials of marble, is all insulation of high dielectric strength and of permanently high insulation resistance yes, if semi-insulating material is used, are all conducting parts insulated from the slabwith mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yesand is the frame effectively earthed yes Are the fittings as per Rule regarding:— spacing or shielding of live partsyes, accessibility of all parts yes, absence of fuses on back of board ---, proportion of omnibusbars yes, individual fuses to voltmeter, pilot or earth lamp yes, connections of switches yesMain Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches For each generator:A double pole circuit-breaker with overload and reversed current trips and a single-pole equalizer switch. For each outgoing circuit: A double-pole linked switch and a fuse at each pole.Instruments on main switchboard 7 ammeters 5 voltmeters --- synchronising device for paralleling purposes.Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system ohm-meters fitted with commutator for both poles.Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes.Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes.



**Cables:** Single, twin, concentric, or multicore single and twin ones/ are the cables insulated and protected as per Tables IV or V of the Rules yes.  
2 v + 3 per cent for lighting power.  
**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load 2 v + " " " "  
**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes.  
**Paper Insulated Cables.** If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound. ---  
**Cable Runs,** are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage yes.  
**Support and Protection of Cables,** state how the cables are supported and protected Supported by metal-clips. All power-cables lead-covered and armoured. Lighting-cables lead-covered in cabins. For the rest lead-covered and steel wire plaited or armoured.  
If cables are run in wood casings, are the casings and caps secured by screws yes, are the cap screws of brass yes, are the cables run in separate grooves no. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII yes.  
**Refrigerated Chambers,** if lights are fitted, are the cables and fittings in accordance with the special requirements yes.  
**Joints in Cables,** state if any, and how made, insulated, and protected no joints in main cable. Joints in section-cables as per Rule.  
**Watertight Glands and Deck Tubes,** are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes.  
**Bushes in Beams and Non-watertight Partitions,** where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed yes, state the material of which the bushes are made lead.  
**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas ---  
are their connections made as per Rule ---  
**Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule Yes.  
**Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven ---  
**Navigation Lamps,** are these separately wired yes, controlled by separate switch and separate fuses yes, are the fuses double pole yes, are the switches and fuses grouped in a position accessible only to the officers on watch yes, has each navigation lamp an automatic indicator as per Rule yes  
**Secondary Batteries,** are they constructed and fitted as per Rule ---  
**Fittings,** are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight yes.  
are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected ---  
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected lamps contained in gas-tight fittings  
in gas-tight tubings  
where are the controlling switches situated outside of the dangerous space.  
**Searchlight Lamps, No. of** ---, whether fixed or portable ---, are their fittings as per Rule ---  
**Arc Lamps,** other than searchlight lamps, No. of ---, are their live parts insulated from the frame or case ---, are their fittings as per Rule ---  
**Motors,** are their working parts readily accessible yes, are the coils self-contained and readily removable for replacement yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material yes, are they protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft yes, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type ---, if not of this type, state distance of the combustible material horizontally or vertically above the motors --- and ---  
**Control Gear and Resistances,** are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes.  
**Lightning Conductors,** where lightning conductors are required, are these fitted as per Rule yes.  
**Ships carrying Oil having a Flash Point less than 150° F.** Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings yes.  
If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office no portable lamps supplied for use in dangerous spaces.

1 off replaced 11/47 by 115kw. MODAAG st

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.			
	Kilowatts	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.		
MAIN	4	3-66	220	3-300	275	3- Diesel motors	Diesel oil.	Above 150°F.	
AUXILIARY		1-64		1-291	500	1- Steam engine.			
EMERGENCY									
ROTARY TRANSFORMER	1	14	P-220 S-110	75 127	1650				

LIGHTING AND HEATING CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. mm.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...					3-300			
	EQUALISER CONNECTIONS	2	95	19	2.52	1-291	10-11-12-15	Rubber.	Lead-covered and steel armoured.
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR		P-25	7	2.13	75	10	"	"
	ROTARY TRANSFORMER...	1	S-70	19	2.17	127	10	"	"
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	1	4	7	0.86	20	10	"	"
	BOILER ROOM								
	ACCOMMODATION	1	6	7	1.05	22	50	"	"
	Distr. board A.	1	6	7	1.05	20	50	"	"
	Distr. board B.								
	" C.	1	35	19	1.53	40	200	"	"
	" D.	1	4	7	0.86	5	220	"	"
	" E.	1	10	7	1.35	8	110	"	"
	Branch circ.	1	1.5	1	1.38	6	---	"	Lead-covered or lead-covered and steel wire plaited.
	Cooking.								
	220 volt galley board.	1	95	19	2.52	130	60	"	Lead-covered and steel armoured.
	WIRELESS	1	10	7	1.35	20	220	"	"
	SEARCHLIGHT						200		
	MASTHEAD LIGHT...	1	1.5	1	1.38	1	110	"	"
	SIDE LIGHTS	1	1.5	1	1.38	1	40	"	Lead-covered and steel wire plaited.
	COMPASS LIGHTS	1	1.5	1	1.38	0.25	20	"	"
	POOP LIGHTS	1	1.5	1	1.38	1	240	"	Lead-covered and steel armoured.
	CARGO LIGHTS	--							
	ARC LAMPS	--							
	HEATERS	--							

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	16	7	1.71	48	50	Rubber	Lead-covered and steel armoured.
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP	1	10	7	1.35	32	70	"	"
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR	1	2-95	19	2.52	350	60	"	"
	FRESH WATER PUMP	1	1.5	1	1.38	4	20	"	"
	ENGINE TURNING GEAR	2	2.5	1	1.78	12	40	"	"
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	120	37	2.08	200	32-36	"	"
	OIL FUEL TRANSFER PUMP	1	10	7	1.35	36	60	"	"
	WINDLASS	--							
	WINCHES, FORWARD	--							
	WINCHES, AFT	--							
	STEERING GEAR								
	(a) MOTOR GENERATOR...	1	50	19	1.83	130	90	"	"
	(b) MAIN MOTOR	1	50	19	1.83	113	10	"	"
	WORKSHOP MOTOR	2	2.5	1	1.78	8	34-46	"	"
	VENTILATING FANS	3	2.5	1	1.78	8	30-30-40	"	"
	Refrigerator	1	16	7	1.71	48	50	"	"
	Lubr. oil separator	2	2.5	1	1.78	8	54	"	"
	Fuel oil	2	2.5	1	1.78	8	54	"	"
	Cooling w. pump	1	2.5	1	1.78	10	50	"	"

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All Conductors are of annealed copper conforming to British Standard Specification No. 7.  
The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.  
The foregoing is a correct description.

El. AB. Siemens-Schuckert and AB. Götaverken. Electrical Engineers.

Date

#### COMPASSES.

Distance between electric generators or motors and standard compass..... about 30 met.

Distance between electric generators or motors and steering compass..... " 30 "

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.

AKTIEBOLAGET GÖTAVERKEN

H. G. Hammar

Builder's Signature.

Date 16<sup>th</sup> Nov. 1928

Is this installation a duplicate of a previous case no. .... If so, state name of vessel .....

General Remarks (State quality of workmanship, opinions as to class, &c. ....)

This Electric Installation has been fitted on board this vessel under our inspection and has been tested & found satisfactory.

The workmanship is good.

All the Rule requirements have been complied with.

this vessel is eligible for  
THE RECORD.

Elec. Light

23/11/28

311 Kw @ 11.47- in.

Total Capacity of Generators ..... 262 Kilowatts.

The amount of Fee ... .. R. 692:51 : { When applied for, 16<sup>th</sup> Nov. 1928

Travelling Expenses (if any) £ : : { When received, 28.12.28

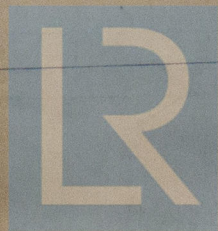
Surveyor to Lloyd's Register of Shipping. E. Berrelius

Committee's Minute

TUE 27 NOV 1928

Assigned

Elec Light



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