

21.22.23.

2 MAR 1953

Rpt. 13.

No. 794

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 27th Feb. 53 When handed in at Local Office 27th Feb. 19 53 Received at London Office KIEL

No. in Survey held at KIEL Date, First Survey 23rd Oct. 52 Last Survey 8th Jan. 53

Reg. Book. 91105 s on the M.V. "HØEGH CLIPPER" (No. of Visits 23) Tons { Gross 7794 Net 7794

Built at Kiel By whom built Howaldtswerke A.G. Yard No. 960 When built 1953

Owners Leif Hoegh & Co. Port belonging to Oslo

Installation fitted by Howaldtswerke A.G., Kiel When fitted 1953

Is vessel equipped for carrying Petroleum in bulk no Is vessel equipped with D.F. yes E.S.D. yes Gy.C. yes Sub.Sig. - Radar yes

Plans, have they been submitted and approved yes System of Distribution DC bipolar Voltage of Lighting 220

Heating 220 Power 220 D.C. or A.C., Lighting DC Power DC If A.C. state frequency --

Prime Movers, has the governing been found as per Rule when full load is thrown on and off yes Are turbine emergency governors fitted with a trip switch -- Generators, are they compound wound yes, and level compounded under working conditions yes

Are the generators arranged to run in parallel yes Is the compound winding connected to the negative or positive pole negative

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing re-examined see Rpt. 46 Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule yes Position of Generators E.R. portside fwd.

port aft outbd. and port aft inhd., emergency generator starboard aft.

Is the ventilation in way of generators satisfactory yes are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil yes Switchboards, where are main switchboards placed ER portside upper platform

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil yes, what insulation is used for the panels Pertinax

material is it an Approved Type yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule yes Is the construction as per Rule, including locking of screws and nuts yes Description of Main Switchgear for each generator and arrangement of equaliser switches automatic circuit breakers with overload and reverse current trips

and the switch and fuse gear (or circuit breakers) for each outgoing circuit For air compressors and non essential purposes

overload circuit breakers, elsewhere fuses and knife switches

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

ammeters 4 voltmeters 1 ~~volt ohmmeter~~ volt ohmmeter For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection yes Earth Testing, state means provided one

Volt ohmmeter and 2 earth lamps Preference Tripping, state if provided yes, and tested yes

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes

make of fuses SSW, are all fuses labelled yes If circuit breakers are provided for the generators, at what

overload do they operate 870 A, and at what current do the reverse current protective devices operate 115 A

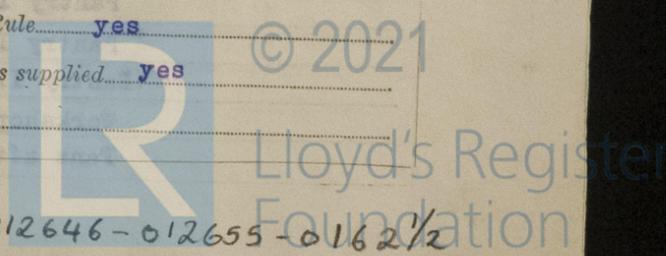
Cables, are they insulated and protected as per Rule yes, if otherwise than as per Rule are they of an Approved Type --, state maximum fall of pressure between bus bars and any point under maximum load less than 6 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends --

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 any cables laid under machines or floorplates bilge lamps, if so, are they adequately protected yes State type of cables (if in conduit this should also be stated) in machinery spaces lead covered+braided, galleys lead covered+braided and laundries lead covered + braided State how the cables are supported or protected Galvanized perforated plating and clips (main lines with protecting covers).

Are all lead sheaths, armouring and conduits effectually bonded and earthed 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 Refrigerated chambers, are the cables and fittings as per Rule yes

Have refrigeration fan motors been constructed under survey yes and test certificates supplied yes

Are the motors accessible for maintenance at all times yes



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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... yes..... Emergency Supply, state position none

Navigation Lamps, are they separately wired... yes... controlled by separate double pole switches 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... Is an alternative supply provided... yes

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule... yes... state battery capacity in ampere hours... 16 Ah... Where required to do so does it comply with 1948 International Convention... -

Lighting, is fluorescent lighting fitted... - If so, state nominal lamp voltage... and compartments where lamps are fitted... -

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... yes

Searchlights, No. of... 1... whether fixed or portable... portable... are they of the carbon arc or of the filament type... filament

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 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil... yes

Are motors coupled to oil fuel transfer and 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... yes

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule... yes

Lightning Conductors, where required are they fitted as per Rule... none

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied with... - are all fuses of an Approved Cartridge Type... - make of fuse... - Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... - Are all cables lead covered as per Rule... -

E.S.D., if fitted state maker... Atlas Bremen... location of transmitter and receiver... double bottom frame 100

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and 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	MAKER.	RATED AT				PRIME MOVER.	
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	1	555823 Siemens-Schuckert-	200	230	867	365	G354/33-12	MAN
	2	555824 Werke	200	230	867	365	G354/33-12	MAN
	3	555825 Werk Nürnberg	200	230	867	365	G354/33-12	MAN
EMERGENCY ROTARY TRANSFORMER	1	520448 Hans Still, Hamburg	25	230	108	850	GV290FK	Deutz

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) IN METERS.	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands.	In the Circuit.	Rule.			
MAIN GENERATOR	1	200	4=	185	867	942	96	rubber	lead covered and braided
" EQUALISER	2	185	2=	185	435	466	24	"	"
EMERGENCY GENERATOR	1	25	1	70	108	124	94	"	"

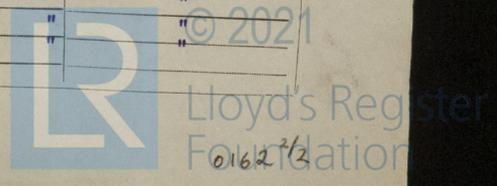
MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) IN METERS.	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands.	In the Circuit.	Rule.			
Light distribution Engine room	1	10	33	38.1	22	rubber	lead covered+braided		
I	1	10	22.5	38.1	60	"	"		
II	1	10	23	38.1	54	"	"		
III	1	10	29	38.1	66	"	"		
IV	1	10	21	38.1	66	"	"		
V	1	16	34	48.1	106	"	"		
VI	1	10	27	38.1	112	"	"		
Distribution H 7	1	10	32	38.1	155	"	"		
Laundry	1	50	92	98	82	"	"		
Galley	1	120	150	175	88	"	"		
Pantry I	1	10	22	38.1	72	"	"		
Pantry II	1	10	22	38.1	65	"	"		
Pantry III	1	10	22	38.1	64	"	"		
Workshop	1	25	42	62.6	24	"	"		
Fans aft	1	4	20	21.1	92	"	"		

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) IN METERS.	INSULATION.	PROTECTIVE COVERING.		
			In the Circuit.	Rule.					
Distribution fans midship	1	6	18	29.4	78	rubber	lead covered + braided		
" " forward	1	10	26	38.1	110	"	"		
" " radio	1	16	18	48.1	96	"	"		
" " gyro-compass	1	6	23	29.4	88	"	"		
MOTOR CABLES									
All Important Motors to be enumerated									
Hydrofor pp. I fresh water	1	3	1	4	16	21.1	60	rubber	lead covered + braided
" " II "	1	3	1	4	16	21.1	60	"	"
" " I sea water	1	3	1	4	16	21.1	60	"	"
" " II "	1	3	1	4	16	21.1	60	"	"
Hot water boiler I	1	18	1	4	16	21.1	60	"	"
" " II	1	18	1	50	82	98	64	"	"
Fan I engine room	1	7.5	1	50	82	98	64	"	"
Fan II "	1	7.5	1	10	32	38.1	40	"	"
Lub.oil pp.f.fuel oil pp.gear	1	0.75	1	10	32	38.1	40	"	"
Fuel oil tank pump I	1	0.75	1	1.5	4	6.6	62	"	"
" " " " II	1	0.75	1	1.5	4	6.6	34	"	"
Fuel oil pump	1	9	1	1.5	4	6.6	34	"	"
Steering gear I	1	12	1	16	43	48.1	82	"	"
Steering gear II	1	12	1	25	54	62.6	154	"	"
Windlass	1	41	1	25	54	62.6	195	"	"
Winch 17, 18, 19, 20	1	85	1	95	182	150	204	"	"
Air compressor I	1	81	2	240	385	275	140	"	"
" " II	1	81	2	150	395	408	232	"	"
Sea cooling water pp.I M.D.	1	47	2	150	395	408	232	"	"
" " " " II "	1	47	2	70	225	248	100	"	"
Fresh " " " I "	1	40	1	70	225	248	100	"	"
" " " " II "	1	40	1	150	200	204	69	"	"
Sea water pp. aux. diesel fresh " " " "	1	4.8	1	150	200	204	69	"	"
Stand-by pp. aux. diesel	1	7.5	1	10	35	38.1	60	"	"
Lub.oil pp.I	1	18.5	1	35	35	38.1	60	"	"
" " II	1	18.5	1	50	95	98	44	"	"
Fire pump	1	20.5	1	50	95	98	44	"	"
Ballast pump	1	13.8	1	70	106	124	94	"	"
Bilge pump	1	14.7	1	35	68	77.5	87	"	"
Compressor I	1	16.4	1	35	72	77.5	106	"	"
" " II	1	16.4	1	50	78	98	65	"	"
" " III	1	16.4	1	50	78	98	69	"	"
" " IV	1	16.4	1	50	78	98	73	"	"
Distribution fans	1	17	1	50	78	98	77	"	"
Cooling water pump I	1	3.55	1	50	82	98	72	"	"
" " " II	1	3.55	1	4	18	21.1	77	"	"
Distr.air condition	1	31	1	4	18	21.1	77	"	"
Provisions refig.I	1	4.4	1	120	155	175	74	"	"
" " II	1	4.4	1	6	23	29.4	80	"	"
Fuel oil separator I	1	3	1	6	23	29.4	80	"	"
" " " II	1	3	1	4	16	21.1	70	"	"
Lub.oil " I	1	3	1	4	16	21.1	70	"	"
" " " II	1	3	1	4	16	21.1	68	"	"
Distr.oil heater fuel oil	1	56	1	4	16	21.1	68	"	"
" " " lubric.oil	1	56	1	240	250	275	74	"	"
" brine pump	1	4.5	1	240	250	275	68	"	"
Turn motor	1	15	1	6	20.5	29.4	72	"	"
Hoisting gear	1	5.2	1	35	72	77.5	60	"	"
Distrib. boiler	1	2.5	1	10	33	38.1	84	"	"
" feed pump	1	9	1	2.5	12	12.9	56	"	"
Fresh water transfer pump	1	0.75	1	16	43	48.1	60	"	"
Cargo winches 1+3	65	1	1.5	4	6.6	52	"	"	
" " 2+4	65	1	185	295	233	165	"	"	
" " 5+7	65	1	185	295	233	165	"	"	
" " 6+8	65	1	185	295	233	109	"	"	
" " 9+10	65	1	185	295	233	109	"	"	
" " 11+12	65	1	185	295	233	84	"	"	
" " 13+15	65	1	185	295	233	62	"	"	
" " 14+16	65	1	185	295	233	105	"	"	

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.



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.

KIELER HOWALDTSWERKE
Aktiengesellschaft

Electrical Contractors. Date **28th Feb. 1953**

COMPASSES.

Have the compasses been adjusted under working conditions. **yes**

KIELER HOWALDTSWERKE
Aktiengesellschaft

Builder's Signature. Date **28th Feb. 1953**

Have the foregoing descriptions and schedules been verified and found correct. **yes**

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

Plans. Are approved plans forwarded herewith. **yes** If not, state date of approval. -

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith. **yes**

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

The installation of the generators, switchboard, motors and cables on the bipolar wire system has been satisfactorily carried out in accordance with the Rules, approved plans and Secretary's letters and the materials and workmanship used are good.

The vessel's machinery is eligible, in my opinion, to be classed with this Society with the notation * LMC 1,53.

Noted **18.3.53**

Total Capacity of **625** Kilowatts.

The amount of Fee **£ 166 : 10** : 00 When applied for, London **19.3.53**

Travelling Expenses (if any) £ : : 19 When received,

A. Schomber
Surveyor to Lloyd's Register of Shipping.

FRI. 20 MAR 1953

Committee's Minute

Assigned **See F.E. mchey. rph**

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



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