

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 7th Jan. 1953. When handed in at Local Office 1953. Port of Copenhagen
 No. in Survey held at 4153. Date, First Survey 24 Sept. 52. Last Survey 2nd Jan. 1953.
 Reg. Book. 90761. (No. of Visits 11.)

27 JAN 1953

on the STEEL S.S. "KIRSTEN SKOU"
 Built at Elsinore By whom built Helsingørsk Skibsreparationsværk Yard No. 308 When built 1953.
 Owners. Danmarks Rederi A/S Port belonging to Copenhagen.

Installation fitted by Helsingørsk Skibsreparationsværk When fitted 1952
 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. Yes Radar Yes

Plans, have they been submitted and approved Yes System of Distribution 2 wire insul. Voltage of Lighting 220
 Heating 220 Power 220 D.C. or A.C., Lighting DC Power DC If A.C. state frequency Yes

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 Yes Generators, are they compound wound Yes, and level compounded under working conditions Yes

if not compound wound state distance between generators. Yes and from switchboard. Yes Are the generators arranged to run in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole

in the machine 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

Position of Generators In the ER, P.S.

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. Switchboards, where are main switchboards placed On a special Platform in front of the M.E.

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. Sheet plate and front, if of synthetic insulating 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. A 3 pole C/B with o/c and R/c trips, 2nd. pole used for equalisation

and the switch and fuse gear (or circuit breakers) for each outgoing circuit. A double pole linked 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 6.
 ammeters 3. voltmeters. Yes synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection. Yes Earth Testing, state means provided. 2 lamps and a voltmeter provided with 2 scale

Switches, Circuit Breakers and Fuses, are they as per Rule. Yes, are the fuses an Approved Type. Yes
 make of fuses. L.K. Cpn. are all fuses labelled. Yes If circuit breakers are provided for the generators, at what overload do they operate. at 120% F.L.C. and at what current do the reversed current protective devices operate. at 120% F.L.C.

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule. Yes

Cables, are they insulated and protected as per Rule. Yes, if otherwise than as per Rule are they of an Approved Type. Yes
 state maximum fall of pressure between bus bars and any point under maximum load. 6.4 V. are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets. Yes Are all paper insulated and varnished cambric insulated cables sealed at the ends. 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 any cables laid under machines or floorplates. partly, if so, are they adequately protected. Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered. Yes or run in conduit. Yes

or of the "HR" type. Yes State how the cables are supported or protected. Lead covered wire armoured

Rubber insulated cables laid in ER and when exposed to mechanical damage, all other cables lead covered rubber insulated. All cables are adequately protected and secured by clips spaced as per Rules.

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

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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 *Top of E.R. 16. tide in a special compartment.*

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 *No* Is an alternative supply provided *Yes*

Secondary Batteries, are they constructed and fitted as per Rule *Yes* are they adequately ventilated *Yes* state battery capacity in ampere hours *Yes*

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof *Yes* Are any 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 *Yes* and where are the controlling switches fitted *Yes* Are all fittings suitably ventilated *Yes*

Searchlight Lamps, No. of *Yes* whether fixed or portable *Yes* are they of the carbon arc or of the filament type *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 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*

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 an Approved Cartridge Type *Yes* make of fuse *Yes* Are the fittings for pump rooms, 'tween deck spaces, etc. in accordance with the special requirements for such ships *Yes* Are the cables lead covered as per Rule *Yes*

E.S.D., if fitted state maker *Simon. Hughes* location of transmitter *Frame 80-81* and receiver *in the Chart room*

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.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	3.	Thomson B. Phinje, Adams	160	220	727	500	Heavy oil	Brimmer & Co. Ltd.
EMERGENCY ...	1	—	15	220	68	750	—	—
ROTARY TRANSFORMER	—	—	—	—	—	—	—	—

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Size of Strands Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	160	2	400	727	788	10-14	Rubber	Lead covered, wire armoured
" " EQUALISER ...	—	1	400	—	—	—	—	—
EMERGENCY GENERATOR ...	15	1	35	68	78	2	—	—
ROTARY TRANSFORMER: MOTOR	—	—	—	—	—	—	—	—
" " GENERATOR...	—	—	—	—	—	—	—	—

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

DESCRIPTION.								
Emergency Switch board, I	1	240	200	275	30	Rubber	Lead covered,	
Light, aft.	1	16	40	48	100	—	Wire armoured	
Galleys	1	10	30	38	25	—	—	
Unloading, main ship,	1	10	25	28	25	—	—	
Unloading, forward	1	25	60	63	70	—	—	
Windlass & Winches forward	1	150	200	202	100	—	—	
Water pumps	1	4	18	21	20	—	—	
Oil fuel heaters	1	150	190	202	50	—	—	
Ant. eng. cooling water pumps	1	16	50	48	50	—	—	
Workshop	1	6	20	25	40	—	—	
Steering gear	1	25	50	63	160	—	—	
Winches aft	1	150	200	202	120	—	—	

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Size of Strands Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Light, forward	1	6	20	29	55	Rubber	Lead covered,
Light, Bridge	1	10	20	38	20	—	Wire armoured
Navigation light	1	2.5	1	13	20	—	—
Winches	1	10	20	38	20	—	—
Light, boat deck, etc	1	10	25	38	20	—	—
Light, Foremast deck, etc	1	16	30	48	60	—	—
Light, Officers	1	10	25	38	18	—	—
Light, Galleys	1	6	20	29	25	—	—
Light, Raft	1	6	20	29	10	—	—

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Flushing air compressors	2	65	1	240	240	275	60	Rubber Lead covered,
Bridge & Deck pump	1	13	1	25	50	63	30	Wire armoured
Turning gear	1	8	1	10	30	38	25	—
Fire pump	1	22	1	50	85	98	70	—
M.E. Cooling water pump	3	24	1	50	90	98	60	—
Ant. eng. pumps	2	60	1	185	220	233	60	—
Ballast pump	1	18	1	25	70	78	50	—
Ant. eng. cooling water p.	2	4	1	4	17	21	4	—
O.F. Pumps for pump	1	15	1	25	55	63	4	—
Windlass	1	52	1	150	197	202	8	—
Working winches	2	12.5	1	16	50	48	10	—
Winches aft	4	33	1	70	122	124	16-20	—
Winches forward	6	33	1	70	122	124	20-40	—

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.

To Kongsbroskibsselskab
HELSINGØR SKIBSVÆRFT OG MASKINBYGGERI
AKTIESELSKAB

Electrical Contractors.

Date

COMPASSES.

Have the compasses been adjusted under working conditions

To Kongsbroskibsselskab
HELSINGØR SKIBSVÆRFT OG MASKINBYGGERI
AKTIESELSKAB

Builder's Signature.

Date

Have the foregoing descriptions and schedules been verified and found correct

Is this installation a duplicate of a previous case

If so, state name of vessel

Plans. Are approved plans forwarded herewith

If not, state date of approval

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

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

The electrical installation has been made under Special Licence in accordance with the Rules, the approved plans and the requirements contained in the Secretary's letter.

The material used has been examined and tested as required by the Rules and the workmanship is good.

On completion of the installation the equipment has been tested and examined under working conditions and found in order.

Total Capacity of Generators *495* Kilowatts.

The amount of Fee ...

£ 2,325,-

When applied for,

23/1 19 *53*

When received,

19

Travelling Expenses (if any)

£ 100,-

L. Laursen
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 10 FEB 1953

Assigned

See F.E. mch. rpt.