

Rpt. 13.

No. 16910.

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

26 NOV 1958

Date of writing Report 19 When handed in at Local Office 19 Port of Copenhagen

No. in Survey held at Nakskov Date, First Survey 26/8 Last Survey 23/10 19 58

Reg. Book. (No. of Visits 12)

on the M/T "ANNAM" Tons { Gross 12499
Net 7221

Built at Nakskov By whom built A/S Nakskov Skibsværft Yard No. 150 When built 1958

Owners A/S Det Østasiatiske Kompagni Port belonging to Copenhagen

Installation fitted by A/S Nakskov Skibsværft When fitted 1958

Is vessel equipped for carrying Petroleum in bulk Yes 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 three-phase three-wire Voltage of Lighting 115

Heating 440 Power 440 D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60 c/sec.

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 no Generators, are they compound wound and level compounded under working conditions

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

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing yes Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule none Position of Generators 2-250 KVA Gens:- Engine room, stbd. side 1-350 KVA Gen.: On a flat at the port side of engine room

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 On a flat at the stbd. side of engine room

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 steel cubicle type, 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 construction as per Rule, including locking of screws and nuts yes Description of Main Switchgear for each generator and arrangement of equaliser switches A triple - pole linked circuit - breaker with over-current trips in each phase and reverse-power relay

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Starter switchboards Nos. 1 & 2, 440 volts switchboard aft and shore connection:- A triple-pole linked circuit-breaker with over-current trips. Remainder triple-pole linked switches with a fuse in each phase.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 20 ammeters 2 voltmeters 2 synchronising devices. For compound machines in parallel are the ammeters and reverse-current protection devices connected on the pole opposite to the equaliser connection Earth Testing, state means provided Earth lamps and ohmmeter Preference Tripping, state if provided yes, and tested yes

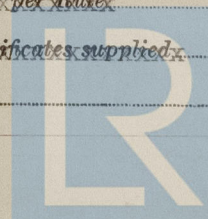
Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes make of fuses N.E.S., Laur. Knudsen & Siemens, are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate 150% and at what current do the reverse-current protective devices operate turbine gear 3-5% diesel gen. 10% 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 6.25 volts. 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 yes, if so, are they adequately protected yes State type of cables (if in conduit this should also be stated) in machinery spaces Varnished Cambric, galleys Vulc.-Rubber and laundries Vulc.-Rubber State how the cables are supported or protected Engine Room:- Leadsheathed & armoured. Fore & Aft Gangway:- Leadsheathed, armoured & PVC-sheathed. Pump room:- Run in conduit. Cables in machinery spaces placed on perforated and secured by galv. clips. Where necessary protected by galv. steel plates. Cables on gangway supported by galv. clips x) plating

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

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

Are the motors accessible for maintenance at all times



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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 No emergency supply

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 no batteries, state battery capacity in ~~ampere hours~~ Where required to do so does it comply with 1945 International Convention

Lighting, is fluorescent lighting fitted yes If so, state nominal lamp voltage 115 and compartments where lamps are fitted everywhere except in pump rooms and crews' cabins

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 none

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 not required

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 yes, are all fuses of an Approved Cartridge Type yes or Diazed yes, make of fuse Laur. Knudsen & Siemens Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships yes Are all cables lead covered as per Rule yes

E.S.D., if fitted state maker Kelvin & Hughes location of transmitter and receiver between frames no. 90 and 92 & Wheelhouse

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.

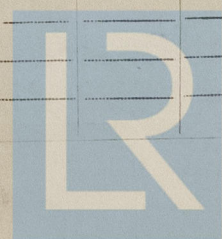
DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				PRIME MOVER.	
			KVA per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKE.
MAIN ...	2	Thomas B. Thrige	250	450	320	514	Heavy Oil eng	A/S Burmeister & Wain
	1	Thomas B. Thrige	350	450	450	1800	Turbine	A/S Atlas, Cpn.
Power transformer	2	Thomas B. Thrige	50	440/115	66/251			
EMERGENCY ...								
ROTARY TRANSFORMER	2	Thomas B. Thrige	40	440/115	53/201			

GENERATOR CABLES.

DESCRIPTION.	No. of	KVA	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.	
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. Ins. or sq. mm.	In the Circuit.	Rule.				
MAIN GENERATOR ...	2	250	2	3 x 120	320	✓ 420	12/18	Varn C.	Lead sheathed &	
" " EQUALISER ...	1	350	2	3 x 185	450	✓ 556	25	" "	armoured	
Power Transformer	2	50	1	3 x 185	219	✓ 278	6	" "	" "	
" "	2	40	1	3 x 120	160	✓ 210	6	" "	" "	
EMERGENCY GENERATOR ...										
ROTARY TRANSFORMER : MOTOR ...										
" " GENERATOR...										

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

DESCRIPTION.	No. of	Sectional Area or No. and Dia. of Strands. Sq. Ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Starting switchboard No. 1	1	3 x 300	530			bare copper
Starting switchboard No. 2	1	3 x 300	443			bare copper
440 volts switchboard aft	1	3 x 120	177	✓ 210	10	Varn C. Lead sheathed & arm'd
440 volts switchboard amidships	1	3 x 70	88	✓ 148	100	" " " " " "
115 volts switchboard aft	1	3 x 35	57	✓ 93	5	" " " " " "
115 volts switchboard amidships	1	3 x 25	42	✓ 75	4	" " " " " "
Shore connection	1	3 x 120	200	✓ 210	50	" " " " " "



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

10/12/58

MOTOR CABLES.

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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.

AKTIESELSKABET
NAKSKOV SKIBSVÆRFT

Electrical Contractors.

Date 5-11-58.

COMPASSES.

Have the compasses been adjusted under working conditions. Yes

AKTIESELSKABET
NAKSKOV SKIBSVÆRFT

Builder's Signature.

Date 5-11-58

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 electrical installation of this vessel has been fitted under special survey in accordance with the Rules, approved plans and Secretary's letters.

The material used is in accordance with the Rules and the workmanship is good.

On completion the electrical installation was examined under working condition and found in efficient condition.

Total Capacity of Generators 850 KVA ~~Kilowatts~~

The amount of Fee ... kr. 2890,-

When applied for,
10/11 58

When received,
19

Travelling Expenses (if any) £

Surveyor to Lloyd's Register of Shipping.

ENTERED IN COPENHAGEN ROUGH FEE BOOK ON THE 10/11 1958

Committee's Minute. FRIDAY 19 DEC 1958

Assigned. See Rpt. 1.



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