

Report on Electrical Equipment.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

9 - APR 1952

Received at London Office

Date of writing Report 20th March 1952. When handed in at Local Office 4.4. 1952. Port of Gothenburg

Survey held at Gothenburg Date, First Survey 7th Jan. 1952 Last Survey 13th March 1952.
No. in Reg. Book. (Number of Visits 18.)36242 on the Single Screw Motor Tanker "A S T R I D O N S T A D" Tons {Gross 14685
Net 8673

Built at Gothenburg By whom built Aktiebolaget Götaverken Yard No. 660 When built 1952

Owners Rederi Aktiebolaget Monacus Port belonging to Kungsbacka

Electrical Installation fitted by Aktiebolaget Götaverken Gen. Nos. 2716065
2769042/3 When fitted 1952Is vessel fitted for carrying Petroleum in bulk Yes Is vessel equipped with D. F. Yes E. S. D. Yes Gy. C. Yes Radar ~~XXXXXX~~ Yes

Have plans been submitted and approved Yes System of Distribution 2 wire Voltage of supply for Lighting 220 & 110

Heating 220 Power 220 Direct or Alternating Current, Lighting DC Power DC 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 on port and 1 on starboard side of the engine room floor.

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 on port side of 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 interlocked with the circuit
breaker as per Rule.

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 2 Ohm-metres.



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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 **Below Rule** 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 **Yes** 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 **No** if so, are they adequately protected **Yes** Are cables in machinery spaces, galleys, laundries, etc., lead covered **Yes** or run in conduit **Yes**

State how the cables are supported and protected **Supported by metal clips. All power cables lead covered and armoured or steel wire braided. In accommodations lead covered and where drawn behind panels, lead covered and steel wire braided and run in conduits.**

Are all lead sheaths, armoured 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 **Emergency Supply**, state position **Yes** and method of control **Yes**

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 **Yes** are they adequately ventilated **Yes**

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 and armoured cables in gastight piping**, and where are the controlling switches fitted **Outside the space** are all fittings suitably ventilated **Yes**

are all fittings and accessories constructed and installed as per Rule **Yes** **Searchlight Lamps**, No. of **Yes** whether fixed or portable **Yes** 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 **Yes** **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 **Yes** and vertically **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 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 **Yes** **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	2	200	220	909	350	Heavy oil engine	Diesel oil	Above 150° F
	1	110	220	500	450	Steam engine	---	---
EMERGENCY	-	-	-	-	-	-	-	-
ROTARY TRANSFORMER	2	15	110	136	-	El. motor	---	---

GENERATOR CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return feet).	INSULATED WITH	HOW PROTECTED.
		No. in Parallel Per Pole	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit	Rule			
MAIN GENERATOR	200	4	185	909 ✓	932	40-120	Rubber	Lead covered & armoured.
" " EQUALISER	200	4	185	-	932	"	"	" "
" " "	110	3	120	500 ✓	525	30	"	" "
" " "	110	3	120	-	525	"	"	" "
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR	17	1	50	88 ✓	99	20	"	" "
" " GENERATOR	15	1	95	136 ✓	150	20	"	" "

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...								
Engine room fans	1	10	38 ✓	38	40	Rubber	Lead covered & armoured	
Purifiers Fuel oil	1	50	63 ✓	77	40			
Lub. oil	1	35	69.5 ✓	78	40	"	" "	
Refrigerating installation	1	10	39.5 ✓	38	80	"	" "	
Hydrofor pump	1	16	30.5 ✓	48	90	"	" "	
Laundry	1	2.5	10.8 ✓	13	100	"	" "	
Gyro Compass and Radar	1	16	35 ✓	48	260	"	" "	
Workshop	1	10	36 ✓	38	50	"	" "	

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS		1	16	10 ✓	48	300	Rubber	Lead covered & armoured.
NAVIGATION LIGHTS	B4	1	4	10 ✓	21	"	"	- " -
LIGHTING AND HEATING								
Crew's accomodation	B 1A & B 1B	1	50	66 ✓	99	100	"	- " -
Officer's accomodation	B2	1	50	66 ✓	99	100	"	- " -
Bridge space	B3	1	95	110 ✓	150	260	"	- " -
Forward	B5	1	25	45 ✓	63	320	"	- " -
Engine room	B6	1	10	35 ✓	38	20	"	- " -
Heating:								
Galley		1	70	118 /	125	100	"	- " -
Lub. oil heaters		1	2.5	9.1 /	13	20	"	- " -
Heaters in acc. amidship		1	150	182 /	203	260	"	- " -

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B. H. P.						
Main lub. oil pump	3	35	1	95	133 ✓	150	80-80	Rubber Lead covered & armoured.
Main cooling water pump	2	72	2	95	265 ✓	300	40-40	" " "
Main air compressor	2	60	1	185	222 ✓	233	110-110	" " "
Aux. engine circulating pump	1	11	1	16	41.5 ✓	48	50	" " "
Fuel oil transfer pump	1	14	1	25	53 ✓	63	100	" " "
Ballast pump	1	20.5	1	35	78 ✓	78	"	" " "
Bilge and san. pump	1	14	1	25	53 ✓	63	"	" " "
Hot water pump	1	3	1	2.5	12.1 ✓	13	40	" " "
Hydrofor pump	2	3.7	1	4	15.5 ✓	21	20-20	" " "
Fuel oil pump	1	1.7	1	2.5	7.7 ✓	13	30	" " "
Purifiers fuel oil-	1	7.7	1	10	30 ✓	38	20	" " "
" lub. oil-	2	7.7	1	10	30 ✓	38	20-20	" " "
Turning motor	1	12	1	16	50 ✓	48	70	" " "
Steering gear	2	25	1	50	95 ✓	99	180-180	" " "
Ref. comp. provision	2	3	1	4	15.5 ✓	21	20-20	" " "
Ref. compr. air condition, after	1	37	1	95	138 ✓	150	80	" " "
Ref. compr. air condition, Bridge	1	22	1	50	84 ✓	99	30	" " "
Engine room fans	2	3.8	1	4	16 ✓	21	30-50	" " "

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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.

AKTIEBOLAGET GÖTAVERKEN Electrical Engineers. Date 24th March 1952.
Nils Brusson

COMPASSES.

Minimum distance between electric generators or motors and standard compass 12 feet

Minimum distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 2 Ampères 9 feet from standard compass 9 feet from steering compass.

A cable carrying 13 Ampères 12 feet from standard compass 12 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 degrees on course in the case of the steering compass.

AKTIEBOLAGET GÖTAVERKEN Builder's Signature. Date 24th March 1952.
Nils Brusson

Is this installation a duplicate of a previous case Yes If so, state name of vessel M/T Margaret Onstad, Got.F.E. Rpt. No. 18385.

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

This electrical equipment has been fitted in accordance with the Rules and approved plans. The workmanship and materials are good. The generators have been inspected by the Stockholm Surveyors during construction and testing, and test sheets for the generators and motors intended for essential survivors are being forwarded.

The installation has been magger tested throughout, examined under full working power and found satisfactory.

Noted 28-4-52

Total Capacity of Generators 510 Kilowatts.

The amount Got a/c 4/5 Kr. 1550:-- When applied for, 4.4.52
Skm a/c 1/5 390:--
Travelling Expenses (if any) Kr. 56:-- When received

Qu. Seating
Surveyor to Lloyd's Register of Shipping.

FRI. 2 MAY 1952

Committee's Minute

Assigned *See F.E. mch. rpt.*

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