

Rpt. 13.

No...15650....

Report on Electrical Equipment.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

28 OCT 1947

Received at London Office.....

Date of writing Report...16/10...1947... When handed in at Local Office...27/10...1947... Port of...G O T H E N B U R G.

Survey held at...Gothenburg... Date, First Survey...6th August... Last Survey...17th October 1947...
No. in Reg. Book...36434... on the...M/T "ARABIAN QUEEN"... Tons {Gross...11173... Net...6665...
(Number of Visits...18...)

Built at...Gothenburg... By whom built...A/B Götaverken... Yard No...609... When built...1947...

Owners...Rederi A.-B. Kungsoil... Port belonging to...Kungsbacka...

Electrical Installation fitted by...A/B Götaverken... Contract No...-... When fitted...1947...

Is vessel fitted for carrying Petroleum in bulk...Yes... Is vessel equipped with D. F...Yes... E. S. D...Yes... Gy. C...No... Sub. Sig...No...

Have plans been submitted and approved...Yes... System of Distribution...Two wire system... Voltage of supply for Lighting...110...

Heating...-... 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...-... and the results found as per rule...-... Are the lubricating arrangements and the construction

of the generators as per rule...Yes... Position of Generators...Two on port and one on starboard side ER 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 at port side of E.R....

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 single pole equalizer switch interlocked with the

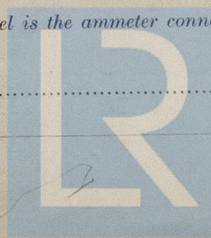
circuit breaker as per Rule

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...7...

ammeters...4... 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...Ohm-meters...



Lloyd's Register Foundation
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Please see Sec. letters dated 7 & 28/8/47
initialialed E and Got. letter dated 2/9/47.

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
Below Rules

type Yes state maximum fall of pressure between bus bars and any point under maximum load perm. are the ends of all cables having a sectional
area of 0.04 square inch and above provided with bolted clamps 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 No

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 or run in conduits.

Are all lead sheaths, armouring 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 Yes **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

Lamps in flame proof fittings and cables in gastight piping.

and where are the controlling switches fitted outside the spaces 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

Please see above 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	140	220	636	450	Diesel engines	Diesel oil	Above 150° F.
	1	110	220	500	450	Steam engine	-	-
EMERGENCY	-	-	-	-	-	-	-	-
ROTARY TRANSFORMER	1	20 KW	110	182	1500	Electric motor.	-	-

GENERATOR CABLES.

DESCRIPTION	KILOWATTS	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return) in mtr.	INSULATED WITH	HOW PROTECTED.			
		No. in Parallel Per Pole	Sectional Area or No. and Dia. of Strands, sq. in. or mm.	In the Circuit	Rule						
MAIN GENERATOR	140	2	150	636	650	72-26	P	Lead covered & armoured			
" " EQUALISER		2	150	-	650	72-26	"	" " " "			
" " " "	110	2	95	500	484	18	"	" " " "			
" " Equaliser		2	95	-	484	18	"	" " " "			
EMERGENCY GENERATOR	-	-	-	-	-	-	-				
ROTARY TRANSFORMER: MOTOR	23	1	35	118	126	20	P	" " " "			
" " GENERATOR	20	1	70	182	200	20	P	" " " "			

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS											
Section Board for E.R. air fans	1	6	24	29	20	R	Lead covered & armoured				
" " " purifiers	1	70	211	200	40	P	" " " "				
" " " hydrofor pumps	1	10	35.4	38	20	R	" " " "				
" " " air condition aft	1	35	126.3	126	80	P	" " " "				
" " " " " midship	1	35	108.5	126	240	P	" " " "				
" " " galley	1	35	110	126	70	P	" " " "				

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	10	12	60	240	P	Lead covered & armoured				
NAVIGATION LIGHTS	D	1	4	2	240	"	" " " "				
LIGHTING AND HEATING											
Distribution board aft starboard	A	1	10	43	60	70	P	" " " "			
" " " port	B	1	10	40	60	40	"	" " " "			
" " " midship	C	1	70	90	200	240	"	" " " "			
" " " forward	E	1	10	8	60	300	"	" " " "			
" " " E.R.	F	1	16	46	48	20	R	" " " "			

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	K.W.									
Chain cooling water pumps	2	52	1	120	263	282	50-48	P.	Lead covered & armoured		
Chain lubricating oil pumps	3	24	1	35	124	126	46-50	"	" " " "		
Ballast pump	1	13	1	16	69	78	90	"	" " " "		
Bilge and sanitary pump	1	9	1	10	48	60	90	"	" " " "		
Oil transfer & bilge	1	11	1	10	58	60	100	"	" " " "		
Auxiliary engine cooling w.pump	1	4.5	1	6	24	29	15	R	" " " "		
Man. air compressors	2	39	1	70	198	200	98-100	P	" " " "		
Steering gear	1	18	1	25	93	102	180	P	" " " "		
Engine room air fans	2	2.1	1	2.5	11.3	13	20-20	R	" " " "		
Purifiers, lubricating oil	2	2.6	1	4	14.5	21	10-10	R	" " " "		
" fuel	1	4.5	1	6	23.5	29	10	R	" " " "		
Provision refrigerator compr.	1	3.7	1	6	20.3	29	35	R	" " " "		
Hydrofor pump, salt water	1	2.2	1	2.5	12.5	13	15	R	" " " "		
" " fresh water	1	2.2	1	2.5	12.5	13	10	R	" " " "		
Workshop motor	1	2.2	1	2.5	12.5	13	30	R	" " " "		
Air condition, refr.compr.	3	9.4	1	10	38.7	60	20-20	P	" " " "		

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 OCT. 20TH 1947

COMPASSES.

Minimum distance between electric generators or motors and standard compass About 10 met.

Minimum distance between electric generators or motors and steering compass " 2 "

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 15 feet from standard compass 15 feet from steering compass.

A cable carrying 2 Ampères 7 feet from standard compass 7 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 0 degrees on every course in the case of the steering compass.

AKTIEBOLAGET GÖTAVERKEN

Builder's Signature. Date OCT. 20TH 1947

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

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 material are good. Generators have been inspected by the Stockholm Surveyors during construction and testing and makers test certificate for electric motors intended for essential services are attached. The installation was megger tested throughout examined under full power conditions and found satisfactory.

Note: Due to shortness of double pole lighting switches, single pole switches have been fitted in some places in accommodations midship and aft and on distribution board F in E.R. Double pole switches will be fitted as soon as available.

Total Capacity of Generators 390 Kilowatts.

The amount of Fee (Got.ac) Kr.	1196:00	When applied for,
(Skm.ac) Kr.	184:00	27/10 1947.
Travelling Expenses (if any) Kr.	25:00	When received
(Skm.ac)		19.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 28 NOV 1947

Assigned For minute see J.E. Mech. Rpt.