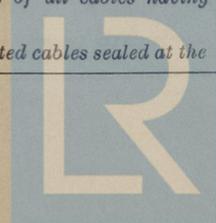


# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office. E 1 NOV 1948Date of writing Report. 20.10.48 When handed in at Local Office. 25.10.48 Port of TRIESTENo. in Survey held at Monfalcone Date, First Survey See Rpt 45 Last Survey 19  
Reg. Book.77723 on the Single screw M/V "Tomar" Tons 6410  
Gross 3869  
NetBuilt at Monfalcone By whom built Cant. Rinn. dell' Adriatico Yard No. 1737 When built 1948Owners Wilh. Wilhelmsen Port belonging to TönsbergElectrical Installation fitted by Cant. Rinn. dell' Adriatico Contract No.          When fitted 1948Is vessel fitted for carrying Petroleum in bulk. no Is vessel equipped with D.F. yes E.S.D. yes Gy.C. yes ~~Sub~~ radarHave plans been submitted and approved. yes System of Distribution Two wire Voltage of supply for Lighting 220Heating          Power 220 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state periodicity          Prime Movers,has the governing been tested and found as per Rule when full load is suddenly thrown on and off yes Are turbine emergency governors fitted with atrip 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 theyarranged to run in parallel yes, are shunt field regulators provided yes. Is the compound winding connected to the negative or positive polenegative. Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing yes. Have certificates oftest for machines under 100 kw. been supplied yes and the results found as per rule yes. Are the lubricating arrangements and the constructionof the generators as per rule yes. Position of Generators machinery space - port side        , is the ventilation in way of generators satisfactory yes are they clear of inflammable material yes, if situatednear unprotected combustible material state distance from same horizontally          and vertically         , are the generators protected from mechanicalinjury and damage from water, steam and oil yes, are the bedplates and frames earthed yes and the prime movers and generators in metalliccontact yes. Switchboards, where are main switchboards placed machinery space - port sideare they in accessible positions, free from inflammable gases and acid fumes yes, are they protected from mechanical injury and damage from water, steamand oil yes, if situated near unprotected combustible material state distance from same horizontally          and vertically         , what insulationmaterial is used for the panels steel asbestos comp. micaite, porcelain if of synthetic insulating material is it an Approved Type         , if ofsemi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule         . Is the frame effectually earthed yesIs the construction as per Rule yes, including accessibility of parts yes, absence of fuses on the back of the board yes, individual fusesto 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         double pole circuit breaker with overload and reverse currenttrip with interlocked single-pole equalizer switchand for each outgoing circuit double - pole circuit breaker with overloadtrip or fuse on each poleAre compartments containing switchboards composed of fire-resisting material or lined as per Rule yes. Instruments on main switchboard 24ammeters 5 voltmeters          synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to theequaliser connection yes. Earth Testing, state means provided 2 indicating lamps and 1 voltmeterSwitches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an approved type diazed, are all fuses labelled asper Rule yes. If circuit breakers are provided for the generators, at what overload current did they open when tested 25%, are the reversed currentprotection devices connected on the pole opposite to the equaliser connection yes, have they been tested under working conditions, and at what currentdid they operate 90 Amps Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule yesCables, 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         ,state maximum fall of pressure between bus bars and any point under maximum load 5 Volts, are the ends of all cables having a sectional area of 0.04square inch and above provided with soldering sockets yes or clamped. Are paper insulated and varnished cambric insulated cables sealed at the ends         

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with insulating compound \_\_\_\_\_ or waterproof insulating tape \_\_\_\_\_. 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. \_\_\_\_\_ Are cables in machinery spaces, galleys, laundries, etc., lead covered yes or run in conduit \_\_\_\_\_. State how the cables are supported and protected. clipped as per Rules - lead covered and steel braided

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 effectually 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. \_\_\_\_\_ and method of control. \_\_\_\_\_

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 what is the battery capacity in ampere hours. 40 Amps - 24 Volts

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. no, if so, how are they protected. \_\_\_\_\_

and where are the controlling switches fitted. \_\_\_\_\_, are all fittings suitably ventilated. \_\_\_\_\_

are all fittings and accessories constructed and installed as per Rule. yes. Searchlight Lamps, No. of 1, whether fixed or portable. portable, are their fittings as per Rule. yes. Heating Cooking, is the general construction as per Rule. yes,

are the frames effectually earthed. yes, are heaters in the accommodation of the convection type. \_\_\_\_\_ 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. \_\_\_\_\_ and vertically. \_\_\_\_\_ Are

motors coupled to oil fuel transfer and unit 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 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. steel mast 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. \_\_\_\_\_, are all fuses of the cartridge type. \_\_\_\_\_ are they of an approved type. \_\_\_\_\_ Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. \_\_\_\_\_ Are the cables lead covered as per Rule. \_\_\_\_\_ 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 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	3	200	220	910	375	Diesel motor	heavy oil	150° F	
Auxiliary	1	30	220	136	750				
EMERGENCY									
ROTARY TRANSFORMER									

#### GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) Meters	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel For Pole.	Sectional Area or No. and Dia. of Strands. sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	200	3	900	951	30	Rubber	lead cov. - steel braid.	
" EQUALISER	-	2	485	-	15			
Auxiliary generator	30	1	99.4	136	154			
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

#### MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS. No. in Parallel For Pole.	Sectional Area or No. and Dia. of Strands. sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) Meters.	INSULATED WITH.	HOW PROTECTED.
			In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
Engine room lights	ELS	1	21.6	55	57	48	Rubber lead cov. - steel braid
Deck lights	DLs	1	147	159	200	64	
Miscellaneous power	MS	1	181	134	230	50	
Fore cargo winches	FCW	1	181	213	230	100	
Midship	MCW	1	128	126	183	100	
Aft	ACW	1	147	188	200	50	
Power distribution	PD1	1	324	286	333	50	
"	PD2	1	242	271	276	90	
"	PD3	1	394	324	386	60	
"	PD4	1	51	74	101	65	
Workshop and battery	WD	1	38	76	83	65	
Refrigerating distrib.	RD	1	181	130	230	65	

#### LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	6.65	13.6	31	50		
NAVIGATION LIGHTS	1	2.9	0.9	15	90		
LIGHTING <del>HEATING</del> searchlight	1	21.6	38.6	56	300		
Engine room lights	EL 1	1	5	15	26	52	
"	EL 2	1	5	15	26	58	
"	EL 3	1	5	15	26	65	
"	EL 4	1	5	15	26	70	
Deck lights	DL 1	1	6.65	18.7	31	48	
"	DL 2	1	10	27	39	46	
"	DL 3	1	5	9.1	26	25	
"	DL 4	1	5	12.1	26	36	
"	DL 5	1	15	34.8	47	10	
"	DL 6	1	5	10.8	26	75	
"	DL 7	1	5	10.9	26	78	
"	DL 8	1	5	13.1	26	80	

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.					
Steering gear	2	20	1	38.2	77	83	250
Windlass	1	86	1	265	335	366	200
Air compressors	2	95	1	395	351	386	80
F.W. circulating pump	1	55	1	147	191	200	32
S.W.	1	55	1	147	191	200	40
F.S.W.	1	55	1	147	191	200	34
L.O.	1	110	2	321	407	420	32
L.O.	1	110	2	321	407	420	40
V.O. transfer	1	60	1	181	225	230	65
O.F.	1	35	1	99.4	132	154	20
General service	1	45	1	130	170	185	20
Bilge	1	42	1	130	158	185	25
Fire	1	42	1	130	158	185	40
O.F. service	2	5	1	6.65	21	31	35
V.O.	1	33	1	74	125.4	129	15
Turning gear	1	15	1	30	59	65	20
Refrig. compressors	2	28	1	51.1	91	101	30
Capstain	1	35	1	74.3	132	132	130

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.

Electrical Engineers. Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass 135 feet

Minimum distance between electric generators or motors and steering compass 125 feet

The nearest cables to the compasses are as follows:—

A cable carrying 0.5 Ampères 5 feet from standard compass 5 feet from steering compass.

A cable carrying all other cables remote Ampères feet from standard compass 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 nil degrees on any course in the case of the standard compass, and nil degrees on course in the case of the steering compass.

Cantieri *Monfalcone* Builder's Signature. Date 21.10.48  
 CANTIERE MONFALCONE

Is this installation a duplicate of a previous case. 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 services and generators forwarded herewith yes

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

The electrical installation of this vessel has been constructed under Special Survey in accordance with the Director's letters and approved plans. The materials and workmanship are good. On completion the insulation resistance was tested, the installation tried under full working conditions and all found satisfactory. In my opinion the installation is eligible for the highest class for machinery built under Survey.

*John McAfee*

Noted.  
 J.S.  
 14-12-48.

Total Capacity of Generators 630 Kilowatts.

The amount of Fee ... £105:15/4 When applied for, 19...

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

Surveyor to Lloyd's Register of Shipping.

Committee's Minute ... FRI, 20 MAY 1947

Assigned *In unilisa J.E. Pht*

500,430.—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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