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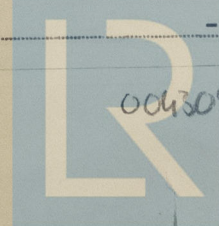
# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

4 MAR 1958

Received at London Office

13. Writing Report 19 When handed in at Local Office 19 Port of Copenhagen  
 Survey held at Odense Date, First Survey 4-6-57 Last Survey 7-1 1958  
 (No. of Visits 12)  
 on the M.V. "LAUST MÆRSK" Tons Gross 6418.68  
 Net  
 Built at Odense By whom built Odense Stålskibsvarft Yard No. 141 When built 1958  
 Owners A.P. Møller Port belonging to Copenhagen  
 Installation fitted by Dansk Elektricitets Compagni When fitted 1958  
 Vessel equipped for carrying Petroleum in bulk no Is vessel equipped with D.F. yes E.S.D. yes Gy.C. yes Sub.Sig. - Radar yes  
 Have they been submitted and approved yes System of Distribution 2 Wire Voltage of Lighting 115  
 Power 440 or A.C., Lighting 115 Power 440 If A.C. state frequency 60  
 Movers, has the governing been found as per Rule when full load is thrown on and off yes Are turbine emergency governors fitted  
 a trip switch - Generators, are they compound wound, and level compounded under working conditions  
 the generators arranged to run in parallel yes Is the compound winding connected to the negative or positive pole  
 machines 100 kw. and over been inspected by the Surveyors during manufacture and testing yes Have certificates of test for machines  
 or 100 kw. been supplied and the results found as per Rule yes Position of Generators Port side engine room  
 rting platform level  
 ventilation in way of generators satisfactory yes are they clear of inflammable material and protected from mechanical injury and  
 age from water, steam and oil yes Switchboards, where are main switchboards placed Fore end of engine room  
 rting platform level  
 they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water,  
 n and oil yes, what insulation is used for the panels Sindayna, if of synthetic insulating  
 rial is it an Approved Type yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as  
 Rule - Is the construction as per Rule, including locking of screws and nuts yes Description of Main Switchgear  
 synchroniser  
 each generator and arrangement of switches A threepole overload with 2 reverse current relay circuit  
 akers.  
 the switch and fuse gear (or circuit breakers) for each outgoing circuit linked threepole switches N.E.S. with  
 tridge fuses.  
 compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 7  
 eters 4 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reverse current  
 ection devices connected on the pole opposite to the equaliser connection yes Earth Testing, state means provided voltmeter  
 h ohm scale & earth lamps Preference Tripping, state if provided, and tested  
 tches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes  
 e of fuses Siemens & LK, are all fuses labelled yes If circuit breakers are provided for the generators, at what  
 load do they operate 50% and at what current do the reverse current protective  
 ces operate 10% Cables, are they insulated and protected as per Rule yes  
 otherwise than as per Rule are they of an Approved Type, state maximum fall of pressure between bus bars and any point  
 er maximum load volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends yes  
 all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical  
 age yes, are any cables laid under machines or floorplates no, if so, are they adequately protected State  
 of cables (if in conduit this should also be stated) in machinery spaces VCLCA, galleys VCLCA  
 laundries VCLCA State how the cables are supported or protected on perforated steel trays clipped  
 per Rule  
 all lead sheaths, armouring and conduits effectually bonded and earthed yes Are all cables passing through decks and watertight  
 heads provided with deck tubes or watertight glands yes, where unarmoured cables pass through beams, etc., are the holes  
 er of Stively bushed yes Refrigerated chambers, are the cables and fittings as per Rule -  
 e refrigeration fan motors been constructed under survey - and test certificates supplied -  
 the motors accessible for maintenance at all times -



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Lloyd's Register  
Foundation



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule...yes... Emergency Supply, state position

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...

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule...state battery capacity in ampere hours... Where required to do so does it comply with 1948 International Convention...

Lighting, is fluorescent lighting fitted...yes... If so, state nominal lamp voltage...115... and compartments where lamps are fitted in engine room, galley, pantries and alleyways...

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 one...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...system... 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...

Lightning Conductors, where required are they fitted as per Rule...

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

E.S.D., if fitted state maker...Kelvin Hughes...location of transmitter and receiver...Bridge and between frames 102 & 103

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.	KVA RATED AT				PRIME MOVER.	
			Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.	
MAIN ...	3	Thomas B. Thrige	300	440	394	heavy oil	Burmeister & Wain	
EMERGENCY ...	1	Dansk Akkumulator	16.9	440	22	"	A/S Bukl.	
ROTARY Static TRANSFORMER	1	Thomas B. Thrige	75	440/115				
	1	Transformer	12	440/115				

#### GENERATOR CABLES.

DESCRIPTION.	No. of	KVA.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands.	In the Circuit.	Rule.			
MAIN GENERATOR ...	3	300	2	2.1 x 0.15	394			VC	Lead covered & per steel plates
" " EQUALISER ...									
EMERGENCY GENERATOR ...	1	16.9	1	3 x 0.01	22	32		VC	Lead covered and armoured
ROTARY TRANSFORMER : MOTOR ...									
" " GENERATOR...									

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

DESCRIPTION.									
Main switchboard to windlass	3x0.15	3x0.15sq."	110	141	100	VC	Lead covered & armd.		
6 winches 7' castle deck	3x0.15	"	180	182	80	"	"		
4 winches fore deck	3x0.1	"	120	141	70	"	"		
2 winches amidship	3x0.1	"	120	141	60	"	"		
4 winches aft. deck	3x0.1	"	120	141	60	"	"		
2 winches Poop deck	3x0.06	"	90	100	80	"	"		
Steering gear	4x0.06	"	42	100	100	"	"		
Main light switchboard	3x0.1	"	140	141	20	"	"		
Engine Vent. switchboard	3x0.06	"	98	100	20	"	"		
Galley	3x0.03	"	59	64	40	"	"		
Laundry	3x0.03	"	55	64	35	"	"		

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands.	In the Circuit.	Rule.			
Emergency Generator to main light switchboard	3 x 0.01		22	32	55	VC	Lead covered & armoured
Main light switchboard							
mast lights	3 x 0.06			100	10	"	"
accommodation lighting amidship	3 x 0.03		62	64	20	"	"
" " aft.	3 x 0.01		31	42	80	"	"
" " forw.	3 x 0.01		28.7	32	80	"	"
Gyro and compass	3 x 2.5		10	13	20	TGBM	Lead covered
Wireless	3 x 4 m/p <sup>2</sup>		16	16	20	"	"
Navigation	3 x 2.5"		10	13	20	"	"
Nautical instruments	3 x 4		16	16	20	"	"

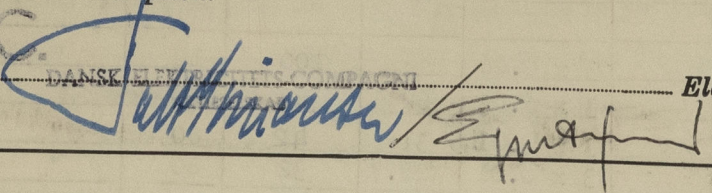
#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	sq.ins.		M			
Manoeuvring air compressor	2	85	3 x 0.1	110	141	20	VC	Lead covered and armd.
Lub. oil pumps	2	90	3 x 0.1	117	141	30	"	" " " "
Cooling water pumps	3	40	3 x 0.0225	52	56	30	"	" " " "
Deep tank pump	1	65	3 x 0.04	76	77	45	"	" " " "
Ballast pump	1	35	3 x 0.0225	45	56	20	"	" " " "
Bilge & fire	1	40	3 x 0.0225	52	56	10	"	" " " "
Bilge & sanitary	1	23	3 x 0.01	30	32	15	"	" " " "
Fire pump	1	40	3 x 0.0225	52	56	10	"	" " " "
Fuel oil transfer	2	23	3 x 0.0225	56	56	15	"	" " " "
Fuel oil circulating	2	1.8	3 x 0.0225	47	56	20	"	" " " "
Turning gear	1	15	3 x 0.01	24	32	40	"	" " " "
Emergency blower	1	75	3 x 0.1	91	141	20	"	" " " "

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.



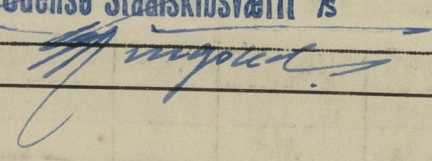
The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.  
All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.  
The foregoing is a correct description.

D.E.C.  Electrical Contractors. Date 1st Febr., 1958.

COMPASSES.

Have the compasses been adjusted under working conditions.

Odense Staalskibsværft A/S

 Builder's Signature. Date 1st Febr., 1958.

Have the foregoing descriptions and schedules been verified and found correct. yes

Is this installation a duplicate of a previous case. yes If so, state name of vessel. "LEDA MERSK"

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.)

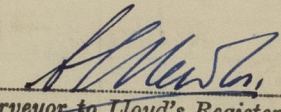
The electrical Installation of this vessel has been made under special survey in accordance with the Rules, approved plans and the Secretary's letters.

The Material used has been made according to the Rules and the Workmanship is good.

On completion the installation has been listed and examined under working condition and found satisfactory.

Total Capacity of Generators 917 Kilowatts.

The amount of Fee ... kr. 2957,-  
Entered in Cpn.R.F.B.18/1/58 23/1 1958  
Travelling Expenses (if any) £ : : 19

  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRIDAY 11 APR 1958

Assigned See Rpt. 1.



2m.455 - Transfer. (MADE AND PRINTED IN ENGLAND)  
(The Surveyors are requested not to write on or below the space for Committee Minutes.)

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6-3-58