

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

25 AUG 1945

Received at London Office.....

Date of writing Report.....14th December 1940..... When handed in at Local Office.....19..... Port of.....Copenhagen.....
 No. in Survey held at.....Copenhagen..... Date, First Survey.....29th May..... Last Survey.....14th November 1940.....
 Reg. Book.....38058..... on the.....Steel Twin S. Motor Vessel ADELAIDE STAR..... Tons {Gross.....12349.....
 Built at.....Copenhagen..... By whom built.....H. Burmeister & Wain's Masking Skibbygger Yard No.....646..... When built.....1940.....
 Owners.....Blue Star Line Ltd..... Port belonging to.....London.....
 Electrical Installation fitted by.....H. Burmeister & Wain's Masking Skibbygger Contract No..... When fitted.....1940.....
 Is vessel fitted for carrying Petroleum in bulk.....No..... Is vessel equipped with D.F.....yes..... E.S.D.....yes..... Gy.C.....yes..... Sub.Sig.....yes.....

Have plans been submitted and approved.....yes..... System of Distribution.....Two conductor insulated Voltage of supply for Lighting.....220.....
 Heating.....220..... Power.....220..... Direct or Alternating Current, Lighting.....direct..... Power.....direct..... 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.....yes..... 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
positive..... 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.....In the motor room one on port side two on starboard side.....
 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 in the motor 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.....Asindanyo..... if of synthetic insulating material is it an Approved Type.....yes..... if of
 semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule.....yes..... 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 three-pole
 circuit breaker with overload and reverse current trips
 and for each outgoing circuit.....up to 200 amps: A double pole switch and a fuse in each pole
 " " " " above " " " : A double pole overload circuit breaker
 Are compartments containing switchboards composed of fire-resisting material or lined as per Rule.....yes..... Instruments on main switchboard.....19.....
 ammeters.....3..... 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.....One set of earth lamps - One Voltmeter with Ohm scale

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 yes, state maximum fall of pressure between bus bars and any point under maximum load 12 Volts, 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 The cables in engine room and unincubated spaces are supported by galvanised iron clips and where necessary protected by iron sheeting or tubes. Cables on deck are laid in iron casings, covered with sealing compound and protected by steel covers attached by screws. Are all lead sheaths, armouring and conduits effectually bonded and earthed yes. Refrigerated chambers, are the cables and fittings as per Rule not fitted. 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 yes and where are the controlling switches fitted yes, are all fittings suitably ventilated yes. 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 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 no unprotected comb. mat. 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 ... | 3 | 330 | 220 | 1500 | 400 | 8-cyl. 2 H.P. heavy oil engine | Crude oil | above 150° F. |
| EMERGENCY ... | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | |

Rpt. 9a.

Port of Copenhagen Continuation of Report No. 11279. dated 14th December 1940 on the

Steel Twin Screw Motor Vessel ADELAIDE STAR of London
Yard No 646 by P. Bunnister & Wain's Maskew & Nobsbyggeri, Copenhagen

MOTOR CABLES

| No. ON PLAN | | No. | BHP | No. PR. POLE | AREA M ² | AMPS CIRCUT RULE | L. M. | INSUL. WITH. |
|-------------|--------------------------|-----|-----|--------------|---------------------|------------------|-------|--------------|
| 44 | Turning gear, Hb. | 12 | 1 | 16 | 50 | 48 | 30 | vulcan |
| 45 | " " " " Port | 12 | 1 | 16 | 50 | 48 | 30 | india |
| 46A | Lathes | 3 | 1 | 4 | 10 | 21 | 5 | rubber |
| 46B | Drill | 1.5 | 1 | 1.5 | 5 | 7 | 13 | " |
| 46C | Grind. | 1 | 1 | 1.5 | 4 | 7 | 18 | " |
| 46D | Crane Starboard | 8 | 1 | 16 | 27 | 48 | 40 | " |
| 46E | " Port | 8 | 1 | 16 | 27 | 48 | 40 | " |
| 47A | Fuel oil purifier | 3.5 | 1 | 4 | 14.2 | 21 | 10 | " |
| 47B | " " " " " | 3.5 | 1 | 4 | 14.2 | 21 | 10 | " |
| 47C | " " " " circulating pump | 3 | 1 | 4 | 12 | 21 | 5 | " |
| 47D | Lubricating oil purifier | 3.5 | 1 | 4 | 14.2 | 21 | 10 | " |
| 47E | " " " " " | 3.5 | 1 | 4 | 14.2 | 21 | 10 | " |

L. Clausen
 SURVEYOR TO LLOYD'S
 REGISTER OF SHIPPING

Steel Twin Screw Motor Vessel ADELAIDE STAR of London
Yard No 646 by P. S. Burmeister & Wain's Maskin- & Skibsbyggeri, Copenhagen

MAIN DISTRIBUTION CABLES

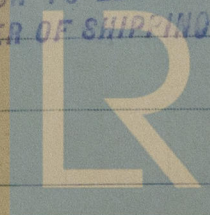
| No. ON PLAN. | | NO PER P.B.E. | AREA M ² | AMPS | | L M. | INSUL. WITH. |
|--------------------|----------------------------------|------------------|------------------------|-------|------|---------|-----------------|
| | | | | CIRC. | RULE | | |
| 13. | Winches forward & Windlass | 1 | 0.5 sq. in. | 493 | 540 | 200 | cambr. |
| 14. | " - amidship | 1 | 3/10 | 228 | 324 | 90 | vulcan. |
| 15. | " - aft | 1 | 3/10 | 283 | 324 | 60 | india |
| 16. | " - aft | 1 | 3/10 | 301 | 324 | 60 | rubber |
| 17. | Refrigerating machinery | 2 | 0.5 sq. in. | | 1080 | | cambr. |
| 18. | Cooking | 1 | 0.5 sq. in. | 340 | 540 | 100 | cambr. |
| 35. | Blower for motor room and tunnel | 1 | 9/5 | 150 | 150 | 25 | vulcan. |
| 46. | Workshop | 1 | 25 | 50 | 63 | 50 | india |
| 47. | Purifiers | 1 | 25 | 47 | 63 | 50 | rubber |

LIGHTING AND HEATING CABLES

| | | | | | | | |
|------|-----------------------------------|---|-----|----|----|-----|---------|
| 40. | Heating, Hospital etc. | 1 | 6 | 18 | 29 | 16 | vulcan. |
| 40. | " - Officers Lounge | 1 | 10 | 25 | 38 | 60 | india |
| 4E. | " - aft | 1 | 4 | 14 | 21 | 200 | rubber |
| 4F. | " - Forward | 1 | 4 | 6 | 21 | 120 | " |
| 5A. | Light, Decks & Hold's fore. | 1 | 6 | 11 | 29 | 80 | " |
| 5B. | " - " " " " | 1 | 6 | 11 | 29 | 120 | " |
| 7A. | " - Officers, Starboard | 1 | 6 | 25 | 29 | 26 | " |
| 7B. | " - " - Port. | 1 | 6 | 19 | 29 | 40 | " |
| 7C. | " - Hospital | 1 | 2.5 | 2 | 13 | 16 | " |
| 7D. | " - Officers, Lounge | 1 | 2.5 | 6 | 13 | 60 | " |
| 7E. | " - aft | 1 | 6 | 11 | 29 | 200 | " |
| 11A. | " - Saloon | 1 | 6 | 22 | 29 | 32 | " |
| 11B. | " - Passengers | 1 | 6 | 18 | 29 | 32 | " |
| 11C. | " - Bridge | 1 | 4 | 7 | 21 | 40 | " |
| 11D. | " - Captain | 1 | 4 | 5 | 21 | 40 | " |
| 11S. | " - & heating in winch cont. room | 1 | 10 | 9 | 38 | 130 | " |
| 13A. | Searchlight | 1 | 50 | | 98 | 10 | " |
| 18E. | Service passengers | 1 | 50 | 84 | 98 | 70 | " |
| 18F. | " - boat deck | 1 | 25 | 50 | 63 | 60 | " |
| 18G. | " - aft | 1 | 25 | 42 | 63 | 200 | " |
| 25. | Engine room lights | 1 | 4 | 11 | 21 | 30 | " |
| 26. | " - " - " - | 1 | 6 | 21 | 29 | 30 | " |

L. Mauser
 SURVEYOR TO LLOYD'S
 REGISTER OF SHIPPING

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 Foundation

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 | 330 | 3 | 0.50" | 1500 | 1620 | 6x25 | Vulcan | |
| " " EQUALISER | | 2 | 0.50" | | 1080 | 4x20 | Cambric | |
| EMERGENCY GENERATOR | | | | | | | | |
| ROTARY TRANSFORMER: MOTOR | | | | | | | | |
| " " GENERATOR | | | | | | | | |

MAIN DISTRIBUTION CABLES.

| | | | | | | | | |
|---|---|----|-----|-----|-----|--------|--|--|
| AUX. SWITCHBOARDS AND SECTION BOARDS | | | | | | | | |
| 3 Heating Passengers & Saloons | 1 | 95 | 140 | 150 | 150 | Vulcan | | |
| 4 " Officers aft | 1 | 95 | 130 | 150 | 90 | India | | |
| 5 Deck & Hold down light | 1 | 16 | 23 | 48 | 100 | rubber | | |
| 6 " " " aft | 1 | 16 | 23 | 48 | 60 | " | | |
| 7 Officers light | 1 | 35 | 63 | 78 | 90 | " | | |
| " Navigation & accommodation | 1 | 35 | 60 | 78 | 120 | " | | |

LIGHTING AND HEATING, ETC., CABLES.

| | | | | | | | | |
|---|---|----|-----|----|-----|---|--|--|
| 9 WIRELESS | 1 | 10 | 9 | 38 | 140 | " | | |
| 11 NAVIGATION LIGHTS | 1 | 4 | 2.3 | 21 | 160 | " | | |
| 10 GYRO COMPASS LIGHTING AND HEATING | 1 | 10 | | 38 | 100 | " | | |
| 3A " Saloons etc. | 1 | 50 | 76 | 98 | 20 | " | | |
| 3B " Passengers | 1 | 16 | 34 | 48 | 32 | " | | |
| 3B(A) " " | 1 | 16 | 20 | 48 | 20 | " | | |
| 3C " Captain | 1 | 16 | 36 | 48 | 40 | " | | |
| 4A " Officers Starboard | 1 | 25 | 58 | 63 | 25 | " | | |
| 4A(A) " " " | 1 | 25 | 27 | 63 | 24 | " | | |
| 4B " " Port | 1 | 25 | 51 | 63 | 22 | " | | |
| 4B(A) " " " | 1 | 25 | 31 | 63 | 36 | " | | |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | | | | | | |
|--|-----|--------|---|--------------|--------|--------------|---------|---------|
| 8A Steering gear | 2 | 80 | 1 | 185 | 295 | 1/2 Hour 335 | 140 | " |
| 13A Windlass | 1 | 75 | 1 | 240 | 275 | 275 | 80 | " |
| 13B & C Winches No 1 & 2 | 2 | 35/42 | 1 | 95 | 132/58 | 150 | 50/75 | " |
| 13D & E " " 3 & 4 | 2 | 55 | 1 | 150 | 202 | 202 | 30/30 | " |
| 13F " " 5 & 6 | 2 | 35/42 | 1 | 95 | 132/58 | 150 | 30/30 | " |
| 13G " " 7 & 8 | 2 | " | " | " | " | " | 50/50 | " |
| 13H & I " " 9 & 10 | 2 | " | " | " | " | " | 50/60 | " |
| 14A & B " " 11 & 12 | 2 | " | " | " | " | " | 25/40 | " |
| 14C & D " " 13 & 14 | 2 | " | " | " | " | " | 40/60 | " |
| 15A & B " " 15 & 16 | 2 | " | " | " | " | " | 20/20 | " |
| 15C & D " " 17 & 18 | 2 | " | " | " | " | " | 40/60 | " |
| 15E & F " " 19 & 20 | 2 | " | " | " | " | " | 45/60 | " |
| 16A & B " " 21 & 22 | 2 | " | " | " | " | " | 60 | " |
| 16C & D " " " | 1 | 55 | 1 | 150 | 202 | 202 | 120-120 | " |
| 16E Hoisting winch | 3 | 65 | 1 | 240 | 243 | 275 | 120 | " |
| 20 21 22 Lubricating oil pumps | 2 | 130 | 1 | 0.5 sq. inch | 473 | 540 | 90/90 | Cambric |
| 23 24 Manoeuvring air comp. | 3 | 40 | 1 | 95 | 154 | 150 | 90/90 | India |
| 27 28 29 Cooling seawater pumps | 2 | 40 | 1 | 95 | 154 | 150 | 90/90 | rubber |
| 30-31 Cooling freshwater pumps | 1 | 10 | 1 | 16 | 41 | 48 | 50 | " |
| 32 Cooling seawater aux. motor | 1 | 10 | 1 | 16 | 41 | 48 | 50 | " |
| 33 " freshwater " " " | 1 | 24 | 1 | 50 | 92 | 98 | 80 | " |
| 34 Service pump | 4 | 8 | 1 | 16 | 31 | 48 | 80 | " |
| 35 36 Blowers for engine room | 1 | 3.5 | 1 | 4 | 12 | 21 | 80 | " |
| 35E " " " " " " " | 1 | 2.2 | 1 | 2.5 | 8.8 | 13 | 60 | " |
| 36 " " " " " " " | 1 | 24 | 1 | 50 | 93 | 98 | 60 | " |
| 39 Ballast pump | 1 | 12.5 | 1 | 16 | 49 | 48 | 40 | " |
| 40 Bilge pump | 1 | 24 | 1 | 50 | 92 | 98 | 80 | " |
| 41 Sanitary pump | 1 | 20 | 1 | 35 | 78 | 78 | 50 | " |
| 42 Fuel oil transfer pump | 1 | 10 | 1 | 16 | 41 | 48 | 80 | " |
| 43 Fresh water domestic pump | 1 | 10 | 1 | 16 | 41 | 48 | 80 | " |

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
BURMEISTER & WAIN'S MASKIN-OG SKIBSBYGGERI

A. Houlmøller

Electrical Engineers.

Date *December 1946*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *8 meters.*

Minimum distance between electric generators or motors and steering compass *9 meters.*

The nearest cables to the compasses are as follows:—

A cable carrying *2.5* Ampères *3* feet from standard compass *2* feet from steering compass.

A cable carrying *0.06* Ampères *to lamp* feet from standard compass *and in* 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 ☒

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted ☒

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

AKTIESELSKABET
BURMEISTER & WAIN'S MASKIN-OG SKIBSBYGGERI

A. Houlmøller

Builder's Signature.

Date *December 1946*

Is this installation a duplicate of a previous case ☒ If so, state name of vessel

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

installation as herein described has been constructed under special survey and in accordance with the Rules, the approved plans and the Secretary's letter E dated 14th September 1939.

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

On completion the whole installation was tested under full power working conditions and found satisfactory.

by

Total Capacity of Generators *990* Kilowatts.

The amount of Fee ... *£ 1596.50* When applied for, *4.10.1946*

Travelling Expenses (if any) £ : : When received, *27.12.1946*

S. Clausen

Surveyor to Lloyd's Register of Shipping.

FRI. 4 JAN 1946

Committee's Minute

Assigned

no action