

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

5 AUG 1943

Received at London Office.....

9 AUG 1943

Date of writing Report.....19..... When handed in at Local Office.....19..... Port of HULL

No. in Survey held at Knottley & Gorb Date, First Survey 16.12.42 Last Survey 5.7.1943  
Reg. Book. (Number of Visits.....5.....)

on the M.V. EMPIRE RANCHER Tons { Gross 322  
Net 158

Built at Knottley By whom built John Barker Ltd Yard No. 147 When built 1943

Owners Ministry of War Transport Port belonging to.....

Electrical Installation fitted by Wm Lord & Son Contract No. .... When fitted 1943

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

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

Heating no Power no Direct or Alternating Current, Lighting AC Power — 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 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....., 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..... 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 Engine room 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 Engine room starboard side forward bulkhead

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 "Linsango", 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..... 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 Double pole push break knife switches & double pole fuses

and for each outgoing circuit Double pole push break knife switches & double pole fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard one ammeters one voltmeters — synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection..... Earth Testing, state means provided Lamps coupled to earth via switches & fuses

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 If circuit breakers are provided for the generators, at what overload current did they open when tested....., are the reversed current protection devices connected on the pole opposite to the equaliser connection....., have they been tested under working conditions, and at what current did they operate.....

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....., state maximum fall of pressure between bus bars and any point under maximum load 3V, 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 ends.....



| 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 ... ..            | 1.9        | 1                         | 19/052                                                         | 400                         | 64    | 20'                                     | VIR             | LC-A           |
| " " EQUALISER ... ..             |            |                           |                                                                |                             |       |                                         |                 |                |
|                                  |            |                           |                                                                |                             |       |                                         |                 |                |
|                                  |            |                           |                                                                |                             |       |                                         |                 |                |
|                                  |            |                           |                                                                |                             |       |                                         |                 |                |
| EMERGENCY GENERATOR ... ..       |            |                           |                                                                |                             |       |                                         |                 |                |
| ROTARY TRANSFORMER: MOTOR ... .. |            |                           |                                                                |                             |       |                                         |                 |                |
| GENERATOR ... ..                 |            |                           |                                                                |                             |       |                                         |                 |                |

[illegible]

| LIGHTING AND HEATING.  |     |       |     |     |     |     |      |
|------------------------|-----|-------|-----|-----|-----|-----|------|
| WIRELESS               | ... | ...   | ... | ... | ... | ... | ...  |
| NAVIGATION LIGHTS      | ... | ...   | ... | ... | ... | ... | ...  |
| LIGHTING AND HEATING   | ... | ...   | ... | ... | ... | ... | ...  |
| Communication lighting | 1   | 7/029 | 10  | 15  | 60' | "   | " "  |
| Engine rooms           | 1   | 7/029 | 5   | 15  | 6'  | "   | LC - |

[illegible]



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.

J. LORD & SON

B. S. Lord

Electrical Engineers.

Date 6.7.43

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 40'-0"

Minimum distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 2 Ampères inside feet from standard compass — feet from steering compass.

A cable carrying — 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 every course in the case of the

standard compass, and — degrees on For JOHN HARKER LIMITED course in the case of the steering compass.

E. H. Therkettle

Builder's Signature.

Date 12/7/43

SHIPYARD MANAGER

Is this installation a duplicate of a previous case Yes If so, state name of vessel EMPIRE REAPER

Plans. Are approved plans forwarded herewith No If not, state date of approval 5-10-42

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith

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

equipment of this vessel was installed under special survey and in accordance with the approved plans and with the specification. The materials used are of good quality and the workmanship is good. On completion the equipment was operated under working conditions with satisfactory results and the insulation resistance of all circuits and apparatus was measured and found good. This vessel is in my opinion suitable for a classed vessel.

Noted  
L. J.  
13/8/43

Total Capacity of Generators 4.9 Kilowatts.

The amount of Fee £ 5 : 0 : 5  
20% for Spec 1 : 5 :  
Travelling Expenses (if any) £ : :  
When applied for, AUG 1943  
When received, 19

W. H. Cornell  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 17 AUG 1943

Assigned see minute no J.E. Rpt.