

No. 25439

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) **4 DEC 1948**

Received at London Office.....

 Report made on 30th. Nov. 48. When handed in at Local Office 30th. Nov. 48. Port of NEWPORT, Mon.

 Survey held at NEWPORT, Mon. Date, First Survey 28th. Oct. Last Survey 19th. Nov. 1948.
 (Number of Visits 4)

 Done on the S.S. "ST. ARVANS" (ex "Samlyth") Tons 7247 (Gross) 4419 (Net)

 Built at Baltimore By whom built The Bethlehem Fairfield Shipyard Inc. Yard No. When built
The South American Saint Line, Ltd. Port belonging to Newport, Mon.

 Installation fitted by Contract No. When fitted 1944

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

 Plans submitted and approved System of Distribution Two Wire insulated. Voltage of supply for Lighting 120

 Power 120 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state periodicity Prime Movers,

 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

 as per Rule Generators, are they compound wound Yes, are they level compounded under working conditions Yes,

 compound wound state distance between generators and from switchboard Where more than one generator is fitted are they

 to run in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole

 active Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Have certificates of

 machines under 100 kw. been supplied No and the results found as per rule Are the lubricating arrangements and the construction

 generators as per rule Yes Position of Generators Generator Flat, Engine Room Starboard Side.

 is the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, if situated

 protected combustible material state distance from same horizontally and vertically , are the generators protected from mechanical

 damage from water, steam and oil Yes, are the bedplates and frames earthed Yes and the prime movers and generators in metallic

Yes Switchboards, where are main switchboards placed Generator Flat - aft of Generators.

 accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steam

Yes, if situated near unprotected combustible material state distance from same horizontally and vertically , what insulation

 used for the panels Ebony Asbestos, if of synthetic insulating material is it an Approved Type Yes, if of

 stinging material (slate or marble) are all conducting parts insulated therefrom as per Rule Is the frame effectually earthed Yes

 construction as per Rule Yes, including accessibility of parts Yes, absence of fuses on the back of the board Pilot lamps & Volt individual fuses

 and earth lamps, voltmeters, etc., Yes locking of screws and nuts Yes, labelling of apparatus and fuses Yes, fuses on the "dead"

 switches Yes Description of Main Switchgear for each generator and arrangement of equaliser switches D.P. Circuit Breakers
overload and reverse current trips; T.P. isolating switch

 on each outgoing circuit D.P. switch and D.P. cartridge type fuses.

 compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 3
3 voltmeters 3 synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

 connection Yes Earth Testing, state means provided Earth Lamps

 Circuit Breakers and Fuses, are they as per Rule A.I.E.E. Standard, are the fuses an approved type A.I.E.E. Standard, are all fuses labelled as

Yes If circuit breakers are provided for the generators, at what overload current did they open when tested , are the reversed current

 devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions, and at what current

 operate Yes Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Yes

 are they insulated and protected as per the appropriate Tables of the Rules A.I.E.E. Standard, if otherwise than as per Rule are they of an approved type Yes

 maximum fall of pressure between bus bars and any point under maximum load 6%, are the ends of all cables having a sectional area of 0.04

 and above provided with soldering sockets Sockets & Copper clamps Are paper insulated and varnished cambric insulated cables sealed at the ends

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. Yes, if so, are they adequately protected. Yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered. Yes or run in conduit. - State how the cables are supported and protected. Brackets clear of bulkheads in steel clips, galvanised tray in accommodation spaces.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. Yes. Refrigerated chambers, are the cables and fittings as per Rule. -

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 or plastic bushes. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Yes. Emergency Supply, state position. None 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. - are they adequately ventilated. - what is the battery capacity in ampere hours. -

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. Yes,

are all fittings and accessories constructed and installed as per Rule. A.I.E.E. Standard 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. -

are the frames effectually earthed. - are heaters in the accommodation of the convection type. - Motors, are all motors constructed and installed as per Rule. A.I.E.E. Standard 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. -

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. None. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. - 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. - 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	20	120	167	400	Single cylinder Steam Engines	-	-
EMERGENCY								
ROTARY TRANSFORMER								

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	20	1	37/.083	165	184	35'-0"	Rubber	lead covered & armoured.
" " EQUALISER		1	19/.064	50	83	20'-0"	"	" " "armoured.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.				
AUX SWITCHBOARDS AND SECTION BOARDS								
Engineer room	L.1	1	19/.052	60	64	25'-0"	Rubber	Lead covered and armoured
Cargo lights & for'd. Stores	L.2	1	7/.064	30	46	700'-0"	"	"
Mid. Accom. & Cargo flood lights	L.3	1	19/.052	60	64	450'-0"	"	"
Midship Accommodation	L.4	1	19/.064	60	83	500'-0"	"	"
Cargo flood lights aft.	L.5	1	7/.064	30	46	350'-0"	"	"
Aft. Deck house & Steering Flat	L.6	1	7/.064	30	46	550'-0"	"	"
Boat Deck Accom. & E.S.D.	L.7	1	19/.064	60	83	600'-0"	"	"
Wheel House & Navigation	L.8	1	7/.064	30	46	580'-0"	"	"
Bridge Dk. Accom. Boat light floods & D.F.	L.9	1	19/.064	60	83	220'-0"	"	"
Search light feeder	L.10	1	7/.029	10	15	550'-0"	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	P.7	1	7/.052	35	37	600'-0"	Rubber	Lead covered and armoured
NAVIGATION LIGHTS from L.8		1	7/.064	10	46	520'-0"	"	"
LIGHTING AND HEATING								
Battery charging		1	7/.052	30	37	8'-0"	Rubber	Lead covered and armoured
Salinity indicator		1	7/.029	1	15	30'-0"	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Refrigeration compressor	1	7.5	1	19/.064	45	83	100'-0"	Rubber	Lead covered and armoured
E.R. Vent & Extractor Fan	1	8.5	1	19/.052	50	64	70'-0"	"	" " "armoured

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

Minimum distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying Ampères 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 No

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted No

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.

Builder's Signature. Date

Is this installation a duplicate of a previous case Yes If so, state name of vessel Liberty Vessels E.C-2-SC1

Plans. Are approved plans forwarded herewith If not, state date of approval

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith No

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.) The electrical installation and appliances have been fitted in accordance with American Institute of Electrical Engineers Standards, and are considered satisfactory.

The generators have been overhauled, circuit breakers and all switchboard fittings examined, tried under working conditions and found satisfactory; Governors adjusted, tested and found in order.

All circuits megger tested and necessary repairs effected to bring insulation to Rule requirements. Generators constructed for a standard temperature rise of 40° C.

The installation as now fitted is in my opinion efficient to be accepted for classification with this Society.

Noted sent 25/1/49

Total Capacity of Generators 60 Kilowatts.

The amount of Fee	£	:	:	When applied for,
			19.....
Travelling Expenses (if any)	£	:	:	When received,
			19.....

J. Smith
 Surveyor to Lloyd's Register of Shipping.

FRI. 28 JAN 1949

Committee's Minute

Assigned See minute on fe rpt.

5014.08—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minutes.)