

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

11 NOV 1943

Received at London Office 12 NOV 1943

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

No. in Survey held at Beverley & Hull Date, First Survey 12.8.43 Last Survey 7.1.11.1943  
Reg. Book. (Number of Visits.....10.....)

on the H.M.T. GULLAND Tons {Gross 452  
Net 144

Built at Beverley By whom built Lock, Walton & Summit Yard No. 719 When built 1943

Owners The Admiralty Port belonging to.....

Electrical Installation fitted by Wm. B. Bowdler & Son Ltd Contract No..... When fitted 1943

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

Have plans been submitted and approved yes System of Distribution two wire Voltage of supply for Lighting 110

Heating 110 Power 110 Direct or Alternating Current, Lighting DC Power DC 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 on platform

....., 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 near generators

..... 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 with mica insulated if of synthetic insulating material is it an Approved Type....., 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....., 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, quick

break knife switches & double pole fuses

and for each outgoing circuit Double pole, quick 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

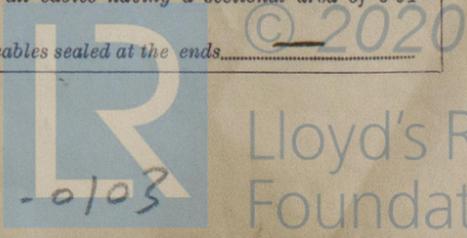
protection devices connected on the pole opposite to the equaliser connection....., have they been tested under working conditions, and at what current

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.....



W1071-0103

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 In machinery spaces are L.C. clipped to perforated steel plates or direct to steel work, in accommodation etc clipped to wood battens or direct to wood work.

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

Admiralty pattern major fittings and where are the controlling switches fitted Push back above \_\_\_\_\_, are all fittings suitably ventilated Yes, are all fittings and accessories constructed and installed as per Rule Yes Searchlight Lamps, No. of 2-10", 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 no 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 \_\_\_\_\_

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing \_\_\_\_\_ Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule Admiralty supply Control Gear and Resistances, are they constructed and fitted as per Rule Yes Lightning Conductors, where required are they fitted as per Rule Steel masts 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	1	20KW	115	174	500	Steam engine		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load 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	20KW	1	37/093	174	214	20'	VIR	L.C. AP6182A WE
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load 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							
Lighting engine & boiler rooms etc	1	7/044	20	31	120'	VIR	L.C. AP6192A WE
Hand lamps & forward lighting	1	7/044	20	31	150'	"	" " " "
D.E.	1	7/044	18	31	20'	"	" " " "

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/036	15	24	140'	VIR	L.C. AP6193A WE
NAVIGATION LIGHTS	1	7/036	3	24	150'	"	" " " "
LIGHTING AND HEATING							
Engine & boiler rooms	1	7/036	10	24	30'	"	" " " "
Aft accommodation lighting	1	7/036	10	24	30'	"	" " " "
" " heating	1	7/069	20	46	20'	"	6191
Searchlights	1	7/044	18	31	150'	"	6192
Forward lighting (crows)	1	7/036	15	24	40'	"	6193
" " (officers)	1	7/044	10	31	20'	"	6192
heating	1	7/044	25	31	16'	"	" " " "
Radio	1	7/044	14	31	210'	"	" " " "
D.A.D.R.	1	7/044	25	31	160'	"	" " " "
Y.M.T.	1	7/044	10	31	160'	"	" " " "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Vent fan 5"	3	1/4	1	3/036	2.5	10	25'	VIR L.C. AP6193A WE
" " 7 1/2"	1	1/2	1	3/036	4.5	10	25'	" " " "
" " 12 1/2"	1	1 1/2	1	7/036	14	24	30'	" " 6193
Puffig (D.A.R.) 7 1/2"	1	1/2	1	3/036	5.2	10	20'	" " 6195
" " 3 1/2"	1	1/2	1	3/036	5.2	10	40'	" " " "

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.

**WM BROADY & SON LTD.**  
**100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000**

Electrical Engineers. Date 30.10.43

COMPASSES.

Minimum distance between electric generators or motors and standard compass 80'-0"  
 Minimum distance between electric generators or motors and steering compass 74'-0"

The nearest cables to the compasses are as follows:—

A cable carrying 1 Ampères inside feet from standard compass 6' feet from steering compass.  
 A cable carrying 25 Ampères 6' feet from standard compass inside 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 nil degrees on every course in the case of the steering compass.

**COOK, WELTON & GEMMELL, LTD.**

*Ad Campbell*  
 General Manager

Builder's Signature. Date 2-11-43

Is this installation a duplicate of a previous case Yes. If so, state name of vessel ROSEVEAN

Plans. Are approved plans forwarded herewith Yes. If not, state date of approval 19.4.41

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

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 equipment is in my opinion suitable for a steam vessel.*

*Noted  
 LL  
 17/11/43*

Total Capacity of Generators 20 Kilowatts.

ADMIRALTY  
 A/c rendered from  
 London 22.11.43

The amount of fee Classification 17: 10: Specification 17: 10:  
 Travelling Expenses (if any) £ : :  
 When applied for 1.1 NOV 1943  
 When received         

*W.H. Connell*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 19 NOV 1943

Assigned See for machinery rpl.

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