

# REPORT ON ELECTRIC PROPELLING MACHINERY

No. 4154 Electr. Prop.

of writing Report 9.3. 1955 When handed in at Local Office 1955  
o. in Survey held at Helsingfors Date, First Survey 29.6. 1953 Port of Helsingfors  
Book. Last Survey 12.1. 1955 No. of Visits 58  
471 ~~XXXX~~ ~~XXXX~~ Screw vessel Kapitän Belousov Gross 3710  
Quadruple) Tons Net 1050  
at Helsingfors Finland By whom built Wärtsilä-koncernen A/B  
Sandvikens Skeppsdocka Yard No. 353 When built 1954  
By whom made Strömberg Generator Nos. 1,42,47, 22,45,46  
When made 1953/54  
Eng. /ft Horse Power at Full Power 10500 Motor Nos. 36,38,39,37  
(See overleaf) Total Capacity of Generators 8220 kilowatts  
Machinery Numeral as per Rule 2400 Owners U.S.S.R. Port belonging to  
de for which Vessel is intended Icebreaking

VS.— Have plans of the Machines, Control Gear, Cables and Circuits been submitted and approved **yes**

IM ENGINES.— Type of Engine — No. of Engines — R.P.M. — Is a Governor fitted — Is the speed  
variation as per Rule when load is thrown off. Is an Emergency Governor fitted. Is it arranged for hand tripping. Does it trip the throttle  
If exhaust steam is permitted, is an automatic shut-off fitted. Is provision made for bleed steam. and is a non-return or positive  
shut-off valve fitted. Lubricating Oil.— State means provided for emergency supply. Mechanical Balance.— Are the Engines and Generators balanced so as not  
to cause appreciable vibration.

ENGINES.— Type of Engines K 58 M Diesel R.P.M. 225/400 Is a Governor fitted **yes** Is the speed variation as  
per Rule when load is thrown off **yes** Is an Emergency Governor fitted **yes** Does it operate as per Rule **yes**

GENERATORS.— Direct or Alternating Current Direct No. of Generators 6 If A.C. state frequency at full load —  
Volts per Generator 400 Amps. per Generator 3430 Have certificates of works tests been  
supplied **yes** and the results found as per Rule **yes** Ventilation.— State how arranged (open or closed system) open  
Are ventilating arrangements satisfactory **yes** Heating when Idle.— What provision is made. Electrical  
heating Resistance Facilities for Inspection and Repair.— Are these as per Rule **yes**

5.4 Year-down gauges supplied **yes** Bilges.— Are the arrangements to prevent accumulation of bilge-water under the machines satisfactory **yes**

MOTORS.— S.H.P. per Motor at full power 3500 No. of Motors 4 Single or double unit double Volts per Motor 2 x 400  
Amps. per Motor 3430 Have certificates of works tests been supplied **yes** and the results found as per Rule **yes** A.C. Motors.— Is provision made for  
lubricating the slip rings. — Do the Motors remain in synchronism under all normal conditions of running. — D.C. Motors.— If the system permits  
speeding at light loads are overspeed protection devices fitted. —

EXCITATION.— Is power for excitation taken from the ship's Auxiliary Generators **yes** If so, state voltage 220 and excitation amperes at full  
load 900 kilowatts for excitation 200 State excitation arrangements for Propulsion Generators. Excitation Motor-Generators.

Propulsion Motors from auxiliary Bus Bars Is an alternative means of excitation provided **no**  
certificates of works tests been supplied **yes** and found as per Rule **yes**

CONTROL.— Position of Main Control Panel Operating room  
Does it comply with the requirements regarding position **yes**, grouping of controls **yes**, instruments **yes**, insulating materials (state type  
of screws and nuts **yes**, labelling **yes**, spacing and shielding of live parts **yes**, accessibility **yes**, position of fuses **yes**  
method employed) **no** (The contactors are not used for manoeuvring) provision for manual operation of contactors, etc.

Switching of instrument cases **yes**, provision of renewable tips on switches subject to arcing **yes**, capability of withstanding  
overload and inclination **yes**, operation with high and low voltage **yes**, rustproofing of parts **yes** Overload and Short Circuit Protection.— State means  
employed. Neg. compounding of the exciting Generators; thermorelays, electromagnetic main current relays, high speed  
relays.

At load is it set to operate 2 x 3430 A Has it been tripped by hand when running at full power and found satisfactory **yes**  
uses of an approved type **yes**; ASEA

Detection.— Is the main circuit provided with means for detecting earths **yes** Are aural and visual alarms fitted **yes** Is main power interrupted  
in the event of an earth fault **no** If a limiting resistance is in the earth detecting circuit what is the ohmic value 220,000 Ohms  
What earth leakage current is necessary  
to operate the device 5 A If a switch is used to disconnect the aural signal does it automatically give visual indication **yes** Are the excitation circuits  
protected with means for earth detection **yes** Mechanical Protection.— Are circuits above 250 volts D.C. or 150 volts A.C. to earth protected as per Rule **yes**

BRIDGE OR DECK CONTROL.— Is bridge control provided **yes** If so, from how many stations 4 can it be operated freely without producing  
overload or loads in excess of the working capacity of the plant **yes** and without reference to electrical instruments **yes** Is an emergency control provided  
in the engine room **yes** and can the transfer to this control be made quickly in the engine room **yes** Can the emergency control be rendered mechanically  
independent of the deck control **yes** Instruments and Gauges.— State Instruments provided for each Generator V- and A-meters for Field

For each Motor V-, A- and MW for Maincircuit, V, A for Field, speed indicator Is an Insulation Tester provided **yes**

Overcurrent Protection.— Are all shunt field circuits protected as per Rule **yes** D.C. Systems.— If the Generators are connected in series state means  
employed to prevent reversal of direction of rotation of the Prime Movers. An auxiliary contact disconnects the excitation circuit of  
two generators and the propeller motor if the speed of one generator falls under 100 rpm

Propulsion Generators also used alternatively for other purposes **no** If so, is provision made for overload protection, voltage adjustment, etc. —



