

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report..... 19..... When handed in at Local Office..... 19..... Port of..... HELSINGFORS
 No. in Survey held at..... Helsingfors..... Date, First Survey..... 26.11.59..... Last Survey..... 2.11. 61
 Reg. Book..... (No. of Visits..... 46.....)
 19598 on the Icebreaker "LENINGRAD"..... Tons { Gross 9425
 Sandvikens Skepps-..... Net 1138
 Built at..... docks..... By whom built..... Wärtsilä-koncernen AB..... Yard No. S 366..... When built..... 1959-61
 Owners..... SUDOIMPORT V/O..... Port belonging to..... MURMANSK, U.S.S.R.
 Installation fitted by..... SIEMENS SÄHKÖ OY..... When fitted..... 1961

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

Plans, have they been submitted and approved..... Yes..... System of Distribution..... 3-Phase 3-Wire System..... Voltage of Lighting..... 127 V
 Heating..... 220 V..... Power..... 380 V..... ~~D.C.~~ A.C. Lighting..... AC..... Power..... AC..... If A.C. state frequency..... 50 c.p.s.

Prime Movers, has the governing been found as per Rule when full load is thrown on and off..... Yes..... Are turbine emergency governors fitted.....

Generators, are they compound wound..... with exception....., and level compounded under working conditions.....

Are the generators arranged to run in parallel..... 62,5 kVA..... Is the compound winding connected to the negative or positive pole.....

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

under 100 kw. been supplied and the results found as per Rule..... Yes..... Position of Generators..... 3 on the platform of the

foreengine room, 4 on the platform of the aft. engine room, 1 emergency generator on the

boat deck.....

Is the ventilation in way of generators satisfactory..... Yes..... are they clear of inflammable material and protected from mechanical injury and

damage from water, steam and oil..... Yes..... Switchboards, where are main switchboards placed..... in a separate switch-

board room.....

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

steam and oil..... Yes....., what insulation is used for the panels..... melamin, dead-front switchboard, 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 construction as per Rule, including locking of screws and nuts..... Yes..... Description of Main Switchgear

for each generator and arrangement of equaliser switches..... Three phase air-circuit-breakers with overload,

short-circuit, no voltage and rev. power protection, pneumatically operated, with

emergency hand operation.....

and the switch and fuse gear (or circuit breakers) for each outgoing circuit..... Three fuses with linked three phase

switches..... or circuit-breakers.....

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule..... yes..... Instruments on main switchboard..... 27

ammeters..... 12..... voltmeters..... 2..... synchronising devices. For compound machines in parallel are the ammeters and reverse current

protection devices connected on the pole opposite to the equaliser connection..... Earth Testing, state means provided..... Ohm-

meters with selector switch..... Preference Tripping, state if provided..... Yes, 3 stages, and tested..... yes

Switches, Circuit Breakers and Fuses, are they as per Rule..... yes....., are the fuses an Approved Type..... yes

make of fuses..... Siemens-Schuckert-....., are all fuses labelled..... yes..... If circuit breakers are provided for the generators, at what

overload do they operate..... 1,15 x rated current after 10 sec....., and at what current do the reverse current protective

devices operate..... 10 % after 2 sec..... Cables, are they insulated and protected as per Rule..... 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..... less than 6%..... volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends..... 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 any cables laid under machines or floorplates..... Yes....., if so, are they adequately protected..... Yes..... State

type of cables (if in conduit this should also be stated) in machinery spaces..... LKNCJ; LJCP; MGGQ; LJPE....., galleys..... LJPE, LJCP

and laundries..... LJPE, LJCP..... State how the cables are supported or protected..... According to the rules, on

cablerunners in Machinery spaces - In Accommodations LC cable clipped to woodwork, or PVC

cables in conduit (See secretary's letter of 25.8.59.)

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

Have refrigeration fan motors been constructed under survey..... no..... and test certificates supplied.....

Are the motors accessible for maintenance at all times..... Yes.....

The generators are selfexcited A.C. with no-rotational excitation equipment

4.

3 core

AB25

AB26

DESCRIPTION.	Mo n:o kW	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA- TION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Aux. engine room fan	✓ 275 2,1	1	1,5 sq. mm	4	7	35	vulc. rubber	Steel wire braid
Ballast and bilge pump	✓ 49 11	1	10 "	20,5	27	19	"	"
"	✓ 4 11	1	10 "	20,5	27	40	"	"
Heeling pump	✓ 144 74	1	70 "	145	148	89	VC	"
"	✓ 143 43	1	35 "	89	93	36	"	"
"	✓ 111 43	1	35 "	89	93	63	"	"
"	✓ 110 68	1	70 "	130	148	63	"	"
Deck crane 1,5 t.	✓ 245 25	1	16 "	48	58	26	"	"
"	✓ 244 25	1	16 "	48	58	27	"	"
Movable emergency pump	✓ 324 50	1	50 "	95	118	21	"	"

✓ 10/2/62

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA- TION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AB 13 - HB 10	1	4 sq. mm	15	16	30	vulc. rubber	Steel wire braid 3 core
AB 13 - HB 1	2	70 "	250	2x148	70	VC	"
AB 21 - PB 5	1	35 "	93	93	56	"	"
AB 22 - PB 3	1	16 "	56	58	43	"	"
AB 23 - PB 11	1	10 "	30	44	46	"	"
AB 23 - PB 12	1	10 "	23	44	56	"	"
AB 23 - PB 13	1	4 "	9	16	49	vulc. rubber	"
AB 23 - PB 19	1	16 "	30	58	126	VC	"
AB 23 - PB 38	1	25 "	32	75	30	"	"
AB 23 - PB 9	1	16 "	59	58	70	"	"
AB 24 - PB 18	1	16 "	29	58	38	"	"
AB 24 - PB 15	1	16 "	34	58	39	"	"
AB 24 - PB 24	1	6 "	20	21	17	vulc. rubber	"
AB 24 - PB 23	1	6 "	20	21	38	"	"
AB 24 - PB 22	1	16 "	60	58	33	VC	"
AB 24 - PB 30	1	16 "	44	58	60	"	"
AB 24 - PB 7	2	50 "	180	2x118	35	"	"
AB 24 - PB 8	2	50 "	210	2x118	89	"	"
AB 25 - PB 21	1	6 "	9	21	67	vulc. rubber	"
AB 25 - PB 31	1	16 "	53	58	16	VC	"
AB 25 - PB 1	2	70 "	190	2x148	14	"	"
AB 25 - PB 10	2	150 "	465	2x242	16	"	"
AB 25 - PB 36/PB 37	1	10 "	30	44	12	"	"
AB 25 - PB 32	1	25 "	61	75	26	"	"
AB 26 - PB 40	1	35 "	65	93	92	"	"
AB 31 - PB 34	1	2,5 "	3	13	48	vulc. rubber	"
AB 31 - PB 4	1	10 "	24	27	39	"	"
AB 31 - PB 6	1	35 "	92	93	24	VC	"
AB 31 - PB 2	2	70 "	260	2x148	39	"	"
AB 32 - PB 16	1	6 "	11	21	23	vulc. rubber	"
AB 32 - SB 1	1	35 "	85	93	75	VC	"
EB - EL 8	1	10 "	35	44	53	"	"
EB - EL 4/EL 3	1	10 "	20	27	33	vulc. rubber	"
EB - EL 5/EL 6	1	10 "	16	27	21	"	"
EB - EL 2	1	10 "	14	27	36	"	"
EB - EL 1/EL 9	1	10 "	22	27	49	"	"
EB - EL 7	1	10 "	12	44	53	VC	"
BC - BL 1	1	10 "	50	63	64	"	"
BC - BL 2	1	10 "	25	38	35	vulc. rubber	"
BC - BL 3	1	4 "	16	23	19	"	"
BC - BL 4	1	6 "	19	29	4	"	"
HB 8 - HB 11	1	4 "	9	16	15	"	"
HB 1 - HB 2	1	16 "	55	58	15	VC	"
HB 1 - HB 3	1	10 "	10	27	28	vulc. rubber	"
HB 1 - HB 4/HB 5	1	10 "	31	44	23	VC	"
PB 5 - PB 17	1	6 "	19	21	7	vulc. rubber	"
PB 16 - PB 41	1	2,5 "	6	13	21	"	"
PB 17 - PB 42	1	2,5 "	6	13	23	"	"
PB 3 - PB 35	1	10 "	32	44	12	VC	"
PB 7 - PB 39	1	2,5 "	1	13	17	vulc. rubber	"
PB 31 - PB 14	1	10 "	18	27	34	"	"
PB 31 - PB 20	1	6 "	16	21	51	"	"
PB 31 - PB 26	1	10 "	20	27	65	"	"
PB 1 - PB 25	1	50 "	66	118	6	VC	"
PB 1 - PB 27	1	70 "	73	148	53	"	"
PB 1 - PB 28	1	50 "	34	118	60	"	"
PB 1 - PB 29	1	50 "	10	118	38	"	"
PB 32 - PB 33	1	16 "	44	58	34	"	"

✓ 10/2/62

3 core

✓
L
9/2/6

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.)

DESCRIPTION	CONDUCTORS		MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return feet)	INSULATION	PROTECTIVE COVERING
	No. in Parallel per Pole	Sectional Area or No. and Dia. of Strands Sq. ins. or sq. mm.	In the Circuit	Rule			
AB 11 - LB 38/LB 37	✓ 1	25 sq. mm	35	63 ✓	50	vulc. rubber	Steel wire braid
AB 11 - LB 33	✓ 1	16 "	29	49 ✓	85	"	"
AB 11 - LB 31/LB 32	✓ 1	35 "	58	78 ✓	25	"	"
AB 11 - LB 42/LB 43	✓ 1	16 "	32	49 ✓	40	"	"
AB 11 - LB 2/LB 3/LB 40	✓ 1	25 "	68	108 ✓	23	vulc. rubber	"
AB 11 - LB 9/LB 44/LB 10/LB 8	✓ 1	35 "	59	78 ✓	48	"	"
AB 11 - LB 5/LB 6/LB 7	✓ 1	25 "	67	108 ✓	8	VC	"
AB 11 - HB 19/ LB 29/ LB 28/ LB 20	✓ 1	50 "	75	169 ✓	75	"	"
AB 11 - LB 11/LB 18/LB 25/LB 27	✓ 1	50 "	64	169 ✓	56	"	"
AB 12 - LB 17/LB 16	✓ 1	16 "	32	49 ✓	18	vulc. rubber	"
AB 12 - LB 30/LB 14/LB 15	✓ 1	25 "	49	108 ✓	25	VC	"
AB 12 - SO 1	1	16 "	14	49 ✓	27	vulc. rubber	"
AB 12 - NL	✓ 1	6 "	10	29 ✓	98	"	"
AB 12 - LB 35/LB 41/LB 36	1	25 "	68	108 ✓	18	VC	"
AB 12 - LB 1/LB 39/LB 4	1	25 "	68	108 ✓	10	"	"
AB 12 - LB 24/LB 22/LB 21	✓ 1	25 "	49	108 ✓	35	"	"
AB 12 - LB 23/LB 13/LB 26/LB 34	✓ 1	50 "	65	169 ✓	57	"	"
AB 12 - LB 19/LB 12	✓ 1	16 "	33	49 ✓	36	vulc. rubber	"
AB 13 - HB 6	✓ 1	10 "	22	27 ✓	56	"	3 core
AB 13 - HB 8/HB 7	✓ 1	16 "	56	58 ✓	26	VC	"
AB 13 - HB 15	✓ 1	25 "	11	13 ✓	94	vulc. rubber	"
AB 13 - HB 9/HB 14	✓ 1	2,5 "	9	13 ✓	42	"	"
AB 13 - HB 13/ HB 18	✓ 1	2,5 "	10	13 ✓	100	"	"
AB 13 - HB 17	✓ 1	4	12	16 ✓	28	"	"
AB 13 - HB 12	✓ 1	10	20	27 ✓	75	"	"
AB 13 - HB 16	✓ 1	16	58	58 ✓	18	VC	"

MOTOR CABLES

ALL IMPORTANT MOTORS TO BE ENUMERATED	No.									
Bilge pump. pr.eng.r.	✓ 102	4,5	1	2,5 sq. mm	9,5	13 ✓	15	vulc. rubber	Steel-wire braid	3 core
" " "	✓ 91	4,5	1	2,5 "	9,5	13 ✓	16	"	"	"
Cooling pump f. nozzles	✓ 119	5,5	1	2,5 "	11,8	13 ✓	65	"	"	"
" " "	✓ 118	5,5	1	2,5	11,8	13 ✓	71	"	"	"
" " "	✓ 117	5,5	1	2,5	11,8	13 ✓	71	"	"	"
Diesel oil transf. pump	✓ 61	1,5	1	1,5	3,4	7 ✓	18	"	"	"
" " "	✓ 60	1,5	1	1,5	3,4	7 ✓	7	"	"	"
" " "	✓ 328	0,3	1	1,5	0,8	7 ✓	16	"	"	"
" " "	✓ 329	0,3	1	1,5	0,8	7 ✓	7	"	"	"
Lubr. oil pump	✓ 319	0,75	1	1,5	1,75	7 ✓	29	"	"	"
" " "	✓ 320	0,75	1	1,5	1,75	7 ✓	27	"	"	"
" " "	✓ 321	0,75	1	1,5	1,75	7 ✓	30	"	"	"
Bilge pump	✓ 11	11	1	10	20,5	44 ✓	19	VC	"	"
Trim & bilge pump	✓ 10	36	1	25	68	75 ✓	5	"	"	"
Fresh cooling water pump	✓ 116	22	1	10	41	44 ✓	78	"	"	"
" " "	✓ 115	22	1	10	41	44 ✓	80	"	"	"
Cooling water pump res.	✓ 114	22	1	10	41	44 ✓	82	"	"	"
Sea coolingwater pump	✓ 113	22	1	10	41	44 ✓	78	"	"	"
Fresh cooling water pump	✓ 112	22	1	10	41	44 ✓	78	"	"	"
Boiler's feeder pump	✓ 229	9	1	6	18	21 ✓	6	vulc. rubber	"	"
" " "	✓ 228	9	1	6	18	21 ✓	11	"	"	"
Evapor. condens. pump	✓ 237	0,5	1	1,5	1,4	7 ✓	8	"	"	"
Evapor. feeder pump	✓ 236	4,8	1	4	8,5	16 ✓	14	"	"	"
Boiler oil transf. pump	✓ 192	0,6	1	1,5	2,6	7 ✓	13	"	"	"
" " "	✓ 290	0,6	1	1,5	2,6	7 ✓	13	"	"	"
Ignition oil pump	✓ 288	0,2	1	1,5	4	7 ✓	17	"	"	"
Boiler fan	✓ 175	6,6	1	4	13,5	16 ✓	14	"	"	"
Ignition oil pump	✓ 287	0,2	1	1,5	4	7 ✓	13	"	"	"
Boiler fan	✓ 171	6,6	1	4	13,5	16 ✓	13	"	"	"
Starting air compr.	✓ 20	18,5	1	10	39	44 ✓	53	VC	"	"
Duo flow pump	✓ 355	11	1	10	24	27 ✓	27	vulc. rubber	"	"
" " "	✓ 133	22	1	10	41	44 ✓	28	VC	"	"
" " "	✓ 354	11	1	10	24	27 ✓	27	vulc. rubber	"	"
" " "	✓ 120	22	1	10	41	44 ✓	26	VC	"	"

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient

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Lloyd's Register
Foundation

012705-012710-01175/5

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.

SIEMENS SAHKKO OY
[Signature]

Electrical Contractors.

Date *22nd Dec. 1961*

COMPASSES

Have the compasses been adjusted under working conditions..... yes

Wärtsilä-koncernen A/B
SANDVÄGENS SKEPPSBODEN

[Signature]

Builder's Signature.

Date *29.12.61*

Have the foregoing descriptions and schedules been verified and found correct..... yes

Is this installation a duplicate of a previous case..... yes

If so, state name of vessel..... "MOSKVA"

Plans. Are approved plans forwarded herewith.....

If not, state date of approval..... Main switchboard 6.3.59

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

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)..... The electric equipment of this ship has been fitted on board under special survey, tried under full working conditions and found fit for class. Material and workmanship found good.

(The Surveyors are requested not to write on or below the space for Committee Minute.)

Total Capacity of Generators..... 2.585,5 ~~Kilowatts~~ kVA
From Auxiliary Supply for exitation of Propulsion Equipment= 244 kVA.

The amount of Fee £	:	:	When applied for,
INSTALLATION F.M.K. 247,480			19
SERVICES OF SURV. ENG. F.M.K. 125,000			
SURVEYOR FROM GOTH. TRAV. EXP. GOTH. SURV. S.W. KR 1,910.			
Travelling Expenses (if any) £	:	:	When received, 19

[Signature]
Surveyor to Lloyd's Register of Shipping

FRIDAY 16 FEB 1962

Committee's Minute.....

Assigned..... *Su Rpt 1*

**HMS*
5.2.62.

