

HDCO. FILE
No. 411.....

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Anchorage, Alaska
November 1, 1951

Memorandum

To: Mr. R. V. Boyd, Supt. of Operations
From: G. A. Benedict, Supt. of Motive Power & Equipment
Subject: Overloading of Diesels

Reference is made to your memorandum of October 23, 1951, regarding the subject.

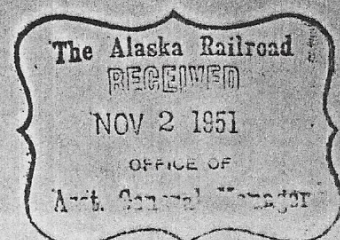
Please note the attached sheet, compiled by Mr. Barnett, Road Foreman of Engines - citing the overloading of 38 diesel locomotives, as noted on the "8 a.m. Situation Report" for the past 60 days.

Also, note memorandum from Mr. Dodd, dated October 25, 1951, Subject - "Traction Motors Overheating" and, finally, photographs of burned out traction motor, field coils, bearings, and armature removed during the past few months, which we feel is caused from continually disregarding the tonnage ratings - as set up by the manufacturer and the Mechanical Department.

We feel that if the tonnage ratings, as compiled, were adhered to, the maintenance costs would be decreased by several thousand dollars a year; also the availability of these locomotives increased considerably.

G. A. Benedict
Supt. of Motive Power
and Equipment

cc: J. E. Manley ✓



<u>Train</u>	<u>Date</u>	<u>Place</u>	<u>Engines</u>	<u>Tons</u>
No. 30	8-30	Whittier-Anchorage	1052-13-34	3890 <u>3450</u> 440 over
No. 28	8-31	Portage-Anchorage	1070	1195 <u>1150</u> 45 over
No. 26	9-1	Healy-Fairbanks	1032-33	2925 <u>2490</u> 435 over
No. 26	9-5	Healy-Fairbanks	1029-15	2860 <u>2490</u> 370 over
No. 28	9-6	Portage-Anchorage	1010	1460 <u>1150</u> 310 over
No. 26	9-6	Healy-Fairbanks	1072-75	2910 <u>2490</u> 420 over
No. 26	9-7	Healy-Fairbanks	1070-74	3010 <u>2490</u> 520 over
No. 28	9-10	Portage-Anchorage	1010	1220 <u>1150</u> 70 over
No. 28	9-11	Portage-Anchorage	1010	1205 <u>1150</u> 55 over
No. 26	9-12	Healy-Fairbanks	1070-74-32	4175 <u>3735</u> 440 over
No. 24	9-14	Healy-Fairbanks	1041	1665 <u>1245</u> 420 over
No. 25	9-14	Healy-Curry	1074-76-18	2785 <u>2535</u> 250 over
No. 26	9-16	Healy-Fairbanks	1013-29	3030 <u>2490</u> 540 over

<u>Train</u>	<u>Date</u>	<u>Place</u>	<u>Engines</u>	<u>Tons</u>
X-1010	9-16	Healy-Fairbanks	1010	1725 <u>1245</u> 480 over
No. 26	9-20	Healy-Fairbanks	1026-29-30	5476 <u>4980</u> 496 over
No. 28	9-20	Portage-Anchorage	1054	1170 <u>1150</u> 20 over
No. 26	9-20	Healy-Fairbanks	1078-89	2915 <u>2490</u> 425 over
No. 26	9-21	Healy-Fairbanks	1074-76	3170 <u>2490</u> 680 over
No. 26	9-29	Healy-Fairbanks	1070-34	2875 <u>2490</u> 385 over
X-1076-75-50-51	9-30	Whittier-Anchorage (Engine failed and doubled from Mile 103 on hill)	1076-75-50-51	5205 <u>4600</u> 605 over
X-1076-75-18	10-2	Healy-Fairbanks	1076-75-18	3945 <u>3735</u> 210 over
No. 26	10-3	Healy-Fairbanks	1051-50	3045 <u>2490</u> 555 over
No. 30	10-3	Whittier-Anchorage	1014-15-28	3625 <u>3450</u> 175 over
No. 26	10-4	Healy-Fairbanks	1030-32	3215 <u>2490</u> 725 over
No. 24	10-5	Healy-Fairbanks	1043	1560 <u>1245</u> 315 over
No. 26	10-6	Healy-Fairbanks	1076-75	2505 <u>2490</u> 15 over
No. 30	10-6	Whittier-Anchorage	1014-36-28	3580 <u>3450</u> 130 over

<u>Train</u>	<u>Date</u>	<u>Place</u>	<u>Engines</u>	<u>Tons</u>
No. 26	10-7	Healy-Fairbanks	1050-51	2653 <u>2490</u> 163 over
X-1033-14	10-10	Healy-Fairbanks	1033-14	3155 <u>2490</u> 665 over
No. 26	10-12	Healy-Fairbanks	1070-77	2530 <u>2490</u> 40 over
No. 26	10-13	Healy-Fairbanks	1029-28-18	4185 <u>3735</u> 450 over
X-1034Nth.	10-14	Healy-Fairbanks	1034	1601 <u>1245</u> 356 over
No. 26	10-16	Healy-Fairbanks	1050-51-18	4072 <u>3735</u> 337 over
No. 26	10-17	Healy-Fairbanks	1076-75-17	4110 <u>3735</u> 375 over
No. 28	10-18	Whittier-Anchorage	1010-28	2330 <u>2300</u> 30 over
No. 26	10-20	Healy-Fairbanks	1050-51-18	3977 <u>3735</u> 242 over
No. 28	10-20	Whittier-Anchorage	1038-10-36	3585 <u>3450</u> 135 over
No. 28	10-27	Whittier-Anchorage	1076-75	2655 <u>2300</u> 355 over

Anchorage, Alaska
October 25, 1951

Memorandum

To: Mr. G. A. Benedict, Supt., M.P. & E.
From: A. M. Dodd, Diesel Electrician Foreman
Subject: Traction Motors Overheating

Causes of Motor Overheating:

1. Overloading of train.
2. Disregard of operating instructions.
3. Equipment not in good condition.

Overloading:

Of the three causes, over-loading of the train is the most common cause for motors overheating. This may start through emergency operation when an engine is lost, or when other trouble is experienced enroute. The run may be completed successfully without lost time and without any motor trouble reported. It may be possible to pull more tonnage and still make the time without any immediate motor trouble, but in time the motors will show signs of distress.

The motor ammeters are supposed to remedy this. However, if the meter is marked for the various time ratings - continuous, hourly, etc., it must be marked by definite lines. One side of the line then is continuous, and the other side is hourly. In order to protect the motors, the area up to this line must be continuous, the entire adjacent area is hourly and so on. In other words, the locomotive cannot be operated up to capacity under all conditions if the motors are to be protected, and misunderstanding of the use of the meter would defeat the purpose for which it was intended. If the operator has run in the hourly rating for one hour, he cannot then run in the half hour area for ~~one-half~~ hour without overheating the motors. All heating calculations are based on cold motors. It cannot be otherwise if the full utilization of the power is to be realized.

The loss of an engine enroute would, of course, call for a helper locomotive where the tonnage for the remaining power would exceed the rating. It would be necessary in this case to know what the tonnage limit would be for the reduced power, even with the Amp meters. It would be too late to get help if halfway up a grade, the maximum current was exceeded.

Our amp meters reading traction motor current does not help the motor heating situation in the least, the meter can be disregarded as easily as the speedometer. Without proper tonnage ratings the maximum current may be exceeded and if it is, what is the operator to do? He will finish his run and report the trouble and if a recurrence is to be prevented, this tonnage will not be carried again. Tonnage rating will automatically be set up, probably higher than they are at present.

Proper tonnage rating is the only protection we know of against misuse of the electric transmission. These tonnage ratings have been questioned from time to time because the extra horsepower, frequently available from the engine, has made it possible to exceed the speed indicated on the tonnage rating charts as a reasonable expectation, and am very much afraid that from time to time when the speed shown was exceeded there has been a tendency to add tonnage so as to stall a locomotive down to the speed given on the chart. This is not only an exceedingly dangerous practice in itself, but leaves the entire question of the loading of the electrical equipment at the mercy of the speedmeter accuracy and operator.

A reasonable amount of excess horsepower output will do no harm to the electrical equipment if it is allowed to express itself in speed, but any attempt to use excess horsepower by hauling excess tonnage will almost invariably lead to the destruction of the traction motors and damage to the rest of the electrical system.

The one certain way to prevent motor overheating is:

1. Adhere to the tonnage rating agreed upon by the Mechanical Department and the builder.

A. M. Dodd
Diesel Electrician Foreman

October 1, 1951

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MECHANICAL DEPARTMENT - LOCOMOTIVE SPECIFICATIONS

STEAM LOCOMOTIVES

No.	CYLS.	TRACT P.	WT. ON DRIVERS	DEV. DIAM.	TOTAL WT. P AND T	TYPE	WRK. PRESS.	FUEL	WATER	BUILDER	DATE
#902	22 x 28	36"0	156000	63-56	446500	4-6-2	200	1h T.	10000		
901	22 x 28	36"0	156000	63-56	446500	4-6-2	200	1h	10000	BLW. 70336	1945
#902	22 x 30	43100	190000	63-56	473600	4-8-2	220	1h	10000	BLW. 62515	1941
#901	22 x 30	43100	190000	63-56	473600	4-8-2	220	1h	10000	BLW. 61736	1942
703	22 x 28	42600	172000	54-47	441600	2-8-2	210	1h	10000	BLW. 61366	1942
702	22 x 28	42600	172000	54-47	441600	2-8-2	210	1h	10000	BLW. 60689	1942
701	22 x 28	42600	172000	54-47	441600	2-8-2	210	1h	10000	BLW. 59606	1942
562	19 x 26	31500	141000	57-51	288950	2-8-0	210	1h	6500	BLW. 59605	1942
561	19 x 26	31500	141000	57-51	288950	2-8-0	210	1h	6500	BLW. 59605	1942
559	1 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70366	1941
558	1 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70479	1941
557	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70479	1941
556	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70480	1941
555	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69955	1943
554	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69954	1943
552	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69637	1943
551	17 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69636	1943
406	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69637	1943
405	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69636	1943
404	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69637	1943
#103	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69636	1943
402	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69637	1943
401	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69636	1943
320	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69637	1943
319	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69636	1943
318	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69637	1943
317	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69636	1943
316	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69637	1943
315	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69636	1943
313	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69637	1943
312	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69636	1943
311	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69637	1943
310	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69636	1943

DIESEL-ELECTRIC LOCOMOTIVES

No.	TYPE	HORSEPOWER	CYLINDERS	WHL. DIA.	WEIGHT	ENGINE MFR.	BUILDER	DATE
1300	0-4-4-0	1000 at 625 RPM	8 12-3/4 x 15-1/2	40"	122 ton	Baldwin	BLW. 71745	1945
1294	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M. 2012	1942
1293	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M. 1990	1942
1292	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M. 2001	1942
1107	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	General Motors	E.M. 2000	1942
1106	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	General Motors	E.M. 2018	1942
1104	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	General Motors	E.M. 2001	1942
1103	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	General Motors	E.M. 2018	1942
1102	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	General Motors	E.M. 2001	1942
1101	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	General Motors	E.M. 2018	1942
1100	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	General Motors	E.M. 2001	1942
1089	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70648	1943
1073	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70649	1943
1076	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70650	1943
1074	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70651	1943
1072	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70652	1943
1070	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70653	1943
1077	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70654	1943
1075	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70655	1943
1054	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70656	1943
1052	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70657	1943
1050	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70658	1943
1051	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70659	1943
1043	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70660	1943
1042	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70661	1943
1041	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70662	1943
1036	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70663	1943
1035	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70664	1943
1034	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70665	1943
1033	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70666	1943
1032	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70667	1943
1031	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70668	1943
1030	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70669	1943
1029	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70670	1943
1028	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70671	1943
1027	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70672	1943
1026	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70673	1943
1025	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70674	1943
1024	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70675	1943
1023	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70676	1943
1022	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70677	1943
1021	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70678	1943
1020	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70679	1943
1019	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70680	1943
1018	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70681	1943
1017	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70682	1943
1016	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70683	1943
1015	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70684	1943
1014	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70685	1943
1013	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70686	1943
1012	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70687	1943
1011	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70688	1943
1010	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70689	1943
1009	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70690	1943
1008	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70691	1943
1007	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70692	1943
1006	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70693	1943
1005	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70694	1943
1004	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70695	1943
1003	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70696	1943
1002	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70697	1943
1001	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 70698	1943
#901	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	122 ton	McIntosh Seymour	ALCO GE 69993	1942

0-4-4-0 55 ton
tractive effort @ 30% adhesion 39000 lbs.
continuous rating 5600 lbs. @ 13.5 MPH

0-4-4-0 99 ton
tractive effort @ 25% adhesion approximately 50000 lbs.
@ 30% 60000 lbs.

FOUNDRY & MACHINERS
#1 0-4-4-0 25 ton 150 H.P. GE 11146 built 1941
#0 0-4-4-0 25 ton 150 H.P. GE 27501 built 1941
#60 0-4-4-0 20 ton Whitcomb Gas Mechanical Serial No. 13182
#61 0-4-4-0 20 ton Whitcomb Gas Mechanical Serial No. 13179

120 ton
tractive effort @ 25% adhesion 60,000 lbs.
@ 10 MPH 36,000 lbs.

122 ton
tractive effort @ 25% adhesion 61,000 lbs.
@ 10 MPH 36,000 lbs.

127 ton
tractive effort @ 25% adhesion 63,500 lbs.
@ 10 MPH 36,000 lbs.

NOT IN SERVICE.
Went out of service for conversion.

Single Unit control.
Disassembled by file 1-15-51.
Disassembled in Service - out of service.

MOTOR CARRIERS AND TRAILERS
211 - 1h Pstr. 21h - 39 Pstr.
212 - 4h Pstr. 215 - 24 Pstr.
213 - 4h Pstr. 216 - 3h Pstr.
303 Trailer - 56 Pstr.
304 Trailer - 60 Pstr.
No Trailer

August 16, 1951

MECHANICAL DEPARTMENT - LOCOMOTIVE SPECIFICATIONS

STEAM LOCOMOTIVES

NO.	CILS.	TRACT P.	WT. ON DRIVERS	DRV. DIAM.	TOTAL WT. F AND T	TYPE	WRK. PRESS.	FUEL	WATER	BUILDER	DATE
#902	22 x 28	36500	156000	63-56	146500	4-6-2	200	1h T.	10000	BLW. 70336	1945
901	22 x 28	36500	156000	63-56	146500	4-6-2	200	1h	10000	BLW. 62515	1941
#802	22 x 30	43100	190000	63-56	173600	4-8-2	220	1h	10000	BLW. 61366	1942
801	22 x 30	43100	190000	63-56	173600	4-8-2	220	1h	10000	BLW. 61736	1932
703	22 x 28	42600	176000	54-47	141600	2-8-2	210	1h	10000	BLW. 60689	1928
702	22 x 28	42600	172000	54-47	141600	2-8-2	200	1h	10000	BLW. 59606	1927
701	22 x 28	42600	172000	54-47	141600	2-8-2	200	1h	10000	BLW. 59605	1927
562	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	ALCO 70431	1942
561	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70366	1944
560	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70367	1944
559	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70479	1944
558	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70478	1944
557	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70480	1943
#556	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69855	1943
555	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69854	1943
554	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69853	1943
552	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69852	1943
551	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69851	1943
406	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	BLW. 69836	1943
405	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7876	1942
404	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7875	1942
#403	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7877	1942
402	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	8500 G.	Lima 7881	1942
401	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7880	1942
320	21 x 28	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8389	1942
319	21 x 28	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8383	1944
318	21 x 28	40000	157000	50-44	261300	0-6-0	190	12	8000	Lima 8382	1944
317	21 x 28	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8392	1944
316	21 x 28	40000	157000	50-44	261300	0-6-0	190	10	8000	Lima 8393	1944
315	21 x 28	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8379	1944
313	21 x 28	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8391	1944
312	21 x 28	40000	157000	50-44	261300	0-6-0	190	1800 G.	6500	Lima 8406	1943
311	21 x 28	40000	157000	50-44	261300	0-6-0	190	1800 G.	6500	Lima 8407	1943
310	21 x 28	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8402	1944
								10	6500	Lima 8390	1944

DIESEL-ELECTRIC LOCOMOTIVES

NO.	TYPE	HORSEPOWER	CYLINDERS	WHL. DIA.	WEIGHT	ENGINE MFR.	BUILDER	DATE
1300	0-4-4-0	1000 at 625 RPM	8 12-3/4 x 15-1/2	40"	122 ton	Baldwin	BLW. WEST. 71745	1945
1204	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M. 2012	1942
1203	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M. 1990	1942
1202	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M. 2001	1942
1201	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M. 2000	1942
1107	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	Cummins H.B.S.	Porter 7308	1942
1106	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	33"	65 ton	Cummins H.B.S.	Porter 7317	1942
1104	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter 7437	1942
1103	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter 7425	1942
1102	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter 7403	1942
1101	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter 7392	1942
1100	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter 7439	1942
1078	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70674	1943
1076	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70667	1943
1074	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70667	1943
1072	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70673	1943
1070	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70668	1943
1077	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70668	1943
1075	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70668	1943
1054	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70672	1943
1052	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70677	1943
1050	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	133 ton	McIntosh Seymour	ALCO GE 70676	1943
1051	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	133 ton	McIntosh Seymour	ALCO GE 70661	1943
1043	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 70675	1943
1042	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 69568	1942
1038	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 69425	1942
1036	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 69570	1942
1035	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE 72143	1945
1034	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour		1945

The Alaska Railroad
 RECEIVED
 AUG 21 1951
 ASST. Gen. Mgr.

GEORGIA CAR & LOCOMOTIVE COMPANY

RAILROAD EQUIPMENT

GENERAL OFFICES
RIDGE AVE. AND SOUTHERN RY.

P. O. BOX 1675

ATLANTA 1, GEORGIA

June 4, 1951

Mr. J. P. Johnson, General Manager
The Alaska Railroad
Anchorage, Alaska

Dear Sir:

Herewith photograph and description of two Baldwin 36" gauge 4-6-0 type coal burning steam locomotives, built new 1916, having 16" x 22" cylinders, with tractive effort of 19100 pounds. Driving wheel base 10'. 38" driving wheel centers being 45" when equipped with new tires. Engine proper in working order not including tender, weighs 98800 pounds, the tender having 3000 gallons water capacity and 4 tons of coal. You will find these locomotives in very good condition, having had very little service since last general overhauling, price \$6500 each, fob cars, near Atlanta, Georgia.

If you are needing additional power and their size and tractive effort will meet your requirements, they are great bargains at the above price. We offer them subject to any inspection desired, present location and prior sale. If you would be interested in their purchase, if still available, option could be arranged for your prompt inspection and decision.

Also enclosed is photo and description, one 36" gauge combination mail, baggage and passenger car, in good condition, having all steel under frame and all steel superstructure framing, newly painted and ready for service, mail room being 15' long, baggage room 12' long, passenger compartment 12' long and seating 12 passengers. The outside overall dimensions being as follows:

8' 8" wide, 45' long over couplers.
12' 6" high, top of rail to top of car.

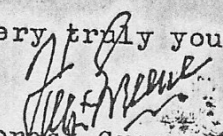
Car is equipped with Westinghouse air brakes, steam heat and electric lights. Price \$5000 fob car near Atlanta, Georgia and subject to any inspection desired before hand, present location.

Both locomotives and car have been well maintained and will give lots and lots of good service in the years to come.

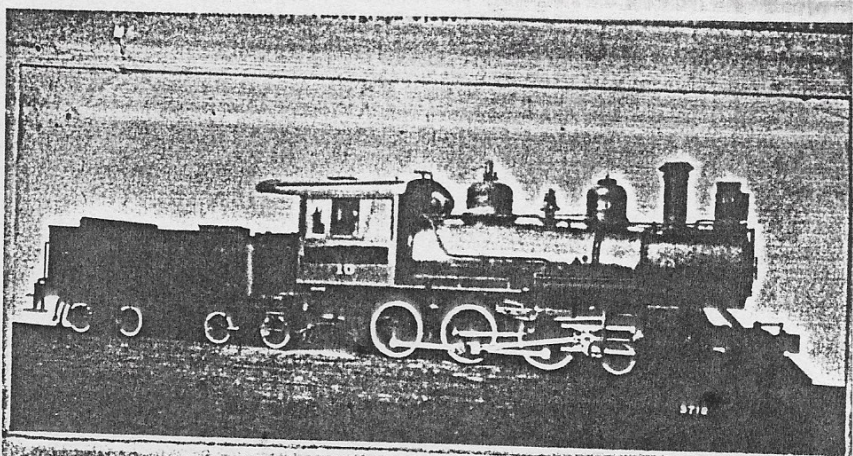
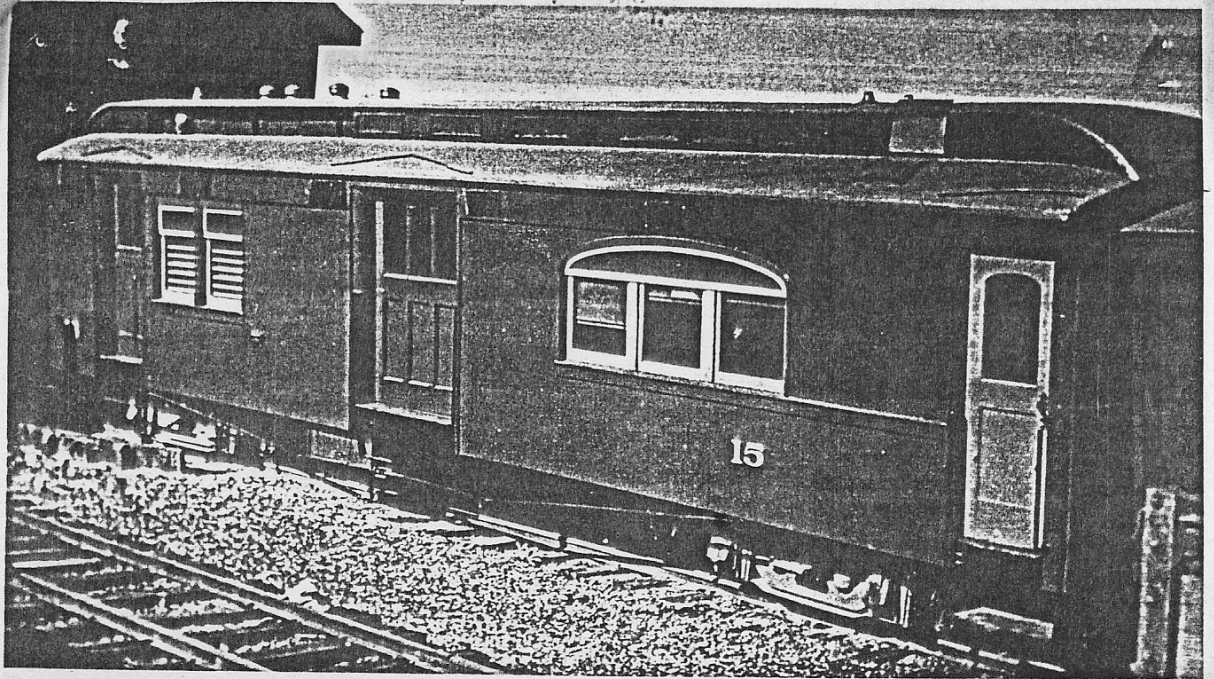
Be good enough to let us hear from you your interest in the purchase of this equipment and we will appreciate the favor.

cc: Mr. G. A. Benedict
Superintendent of Motive Power
Anchorage, Alaska

Very truly yours,


Forest Greene, President

cc; Mr. J. J. Lichtenwalner
Purchasing Agent



GENERAL DIMENSIONS

Case, 3 Ft. 0	Ins. Fuel Soft Coal	Wheel Base, Driving	10
Cylinders, Simple	Ins. Dia. 26	Ins. Stroke	22
Drivers, Diameter	45	Ins. Working Pressure	180
Boiler, Diameter	94	Ins. Type	Ext. Wagon Top
Fire Box, 95-15/16	Ins. Dia. 23-3/8	Ins. Width	
Tubes, No. 188	Ins. Dia. 2	Length	12 Ft. 1 1/2
Fire Box Tubes	116	Weight	
Tubes	1187	In Working Order	
Total	1303	Total Engine	20950
		Weight	18750
		Total Engine	39700
		Total	30000
		Tractive Power	19100
		Water Capacity	3000

Lighting Conditions: E Aug 10, Route # 77 66 23
 Subline # 417

NOTE: Locomotives Class 10-26 B 329-330, Road Nos. 10-11, as built.

Aug 14, Route # 157711, Subline 5340

April 11, 1951

MECHANICAL DEPARTMENT - LOCOMOTIVE SPECIFICATIONS

STEAM LOCOMOTIVES											
NO.	CYLS.	TRACT P.	WT. ON DRIVERS	DRV. DIAM.	TOTAL WT. HAND T.	TYPE	WRK. PRESS.	FUEL	WATER	BUILDER	DATE
#902	22 x 28	34500	158000	63-58	446500	4-6-2	200	14 T.	10000	BLW. 70336	1945
901	22 x 28	36500	158000	63-58	448500	4-6-2	200	14	10000	BLW. 62515	1941
#802	22 x 30	43100	190000	63-60	473600	4-8-2	220	14	10000	BLW. 64366	1942
801	22 x 30	43100	190000	63-60	473600	4-8-2	220	14	10000	BLW. 61736	1932
703	22 x 28	42600	178000	54-47	441600	2-8-2	210	14	10000	BLW. 60689	1928
702	22 x 28	42600	172000	54-47	441800	2-8-2	200	14	10000	BLW. 59606	1927
701	22 x 28	42600	172000	54-47	441600	2-8-2	200	14	10000	BLW. 59606	1927
582	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	ALCO 70431	1942
581	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70386	1944
580	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70387	1944
559	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70479	1944
558	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70478	1944
557	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 70480	1943
#556	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69855	1943
555	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69854	1943
554	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69839	1943
552	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69637	1943
551	19 x 26	31500	141000	57-51	288950	2-8-0	210	10	6500	BLW. 69636	1943
406	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7876	1942
405	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7875	1942
404	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7877	1942
#403	21 x 26	37100	160000	50-44	304700	2-8-0	210	4000 G.	8500	Lima 7881	1942
402	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7880	1942
401	21 x 26	37100	160000	50-44	304700	2-8-0	210	10	6500	Lima 7879	1942
320	21 x 26	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8383	1944
319	21 x 26	40000	157000	50-44	261300	0-6-0	190	12	8000	Lima 8382	1944
318	21 x 26	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8392	1944
317	21 x 26	40000	157000	50-44	261300	0-6-0	190	12	8000	Lima 8393	1944
316	21 x 26	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8379	1944
315	21 x 26	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8391	1944
313	21 x 26	40000	157000	50-44	261300	0-6-0	190	1800 G.	6500	Lima 8408	1943
312	21 x 26	40000	157000	50-44	261300	0-6-0	190	1800 G.	6500	Lima 8407	1943
311	21 x 26	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8402	1944
310	21 x 26	40000	157000	50-44	261300	0-6-0	190	10	6500	Lima 8390	1944

DIESEL-ELECTRIC LOCOMOTIVES

NO.	TYPE	HORSEPOWER	CYLINDERS	WHL. DIA.	WEIGHT	ENGINE MFG.	BUILDER	DATE
1300	0-4-4-0	1000 at 625 RPM	8 12-3/4 x 15-1/2	40"	122 ton	Baldwin	BLW. WEST.	71745 1946
1204	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M.	2012 1942
1203	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M.	1990 1942
1202	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M.	2001 1942
1201	0-4-4-0	600 at 800 RPM	6 8-1/2 x 10	40"	99 ton	General Motors	E.M.	2000 1942
1107	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	35"	65 ton	Cummins H.B.S.	Porter	7318 1942
1106	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	35"	65 ton	Cummins H.B.S.	Porter	7317 1942
1104	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter	7425 1942
1103	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter	7403 1942
1102	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter	7392 1942
1101	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter	7439 1942
1100	0-4-4-0	400 at 1800 RPM	6 4-7/8 x 6 (2)	38"	65 ton	Cummins H.B.S.	Porter	7438 1942
1078	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70674 1943
1076	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70667 1943
1074	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70667 1943
1072	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70673 1943
1070	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70668 1943
1077	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70664 1943
1075	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70672 1943
1054	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70677 1943
1052	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	133 ton	McIntosh Seymour	ALCO GE	70676 1943
1050	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	133 ton	McIntosh Seymour	ALCO GE	70661 1943
1051	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	137 ton	McIntosh Seymour	ALCO GE	70678 1943
#1041	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	69670 1942
1033	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70660 1943
1032	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70645 1942
1031	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70640 1942
1030	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70644 1942
1029	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70641 1942
1028	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	69424 1942
1027	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70670 1943
1026	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70663 1943
#1021	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	69687 1942
1018	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70669 1943
1017	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	72157 1945
1016	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70647 1942
1015	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70656 1942
1014	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70666 1943
1013	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70665 1943
1010	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70662 1943
1002	0-6-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	120 ton	McIntosh Seymour	ALCO GE	70659 1943
1001	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	120 ton	McIntosh Seymour	ALCO GE	71319 1944
1000	0-4-4-0	1000 at 740 RPM	6 12-1/2 x 13	40"	120 ton	McIntosh Seymour	ALCO GE	71320 1944
#8001	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	69995 1942
#8021	0-6-6-0	1000 at 740 RPM	6 12-1/2 x 13	40"	127 ton	McIntosh Seymour	ALCO GE	70642 1942

Tractive effort @ 30% adhesion 39000 lbs. continuous rating 26000 lbs. @ 13.5 MPH

Tractive effort @ 30% adhesion 72000 lbs. continuous rating 54000 lbs.

0-4-4-0 99 ton

0-6-6-0 127 ton, 133 ton, 137 ton

Tractive effort @ 35% adhesion approximately 50000 lbs. @ 30% 60000 lbs.

Tractive effort @ 30% adhesion 75000 lbs. @ 10 MPH 28000 lbs.

ROUNDHOUSE SWITCHERS

MOTORAILERS AND TRAILERS

51	0-4-0	25 ton 160 H.P. GE 13144 Built 1941	211 - 14 Pegr.	214 - 39 Pegr.	303 Trailer - 56 Pegr.
50	0-4-0	25 ton 160 H.P. GE 27601 Built 1944	212 - 42 Pegr.	215 - 24 Pegr.	304 Trailer - 60 Pegr.
#60	0-4-0	20 ton Whitcomb Gas Mechanical Serial No. 13182	213 - 40 Pegr.	216 - 34 Pegr.	No Trailer
#61	0-4-0	20 ton Whitcomb Gas Mechanical Serial No. 13179			

*Not in service.
#Out of Service for Conversion.
%Single Unit Control.

†Damaged by fire 1-15-51.

Anchorage, Alaska
March 21, 1951

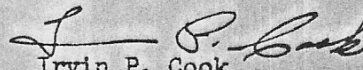
Memorandum

To: Colonel J. P. Johnson, General Manager
From: Mr. Irvin P. Cook, Acting Chief Engineer
Subject: Use of 400-Class Engines - Seward to Portage

In accordance with your request at the Staff Meeting of March 12, the possibilities of using 400-class engines has been investigated.

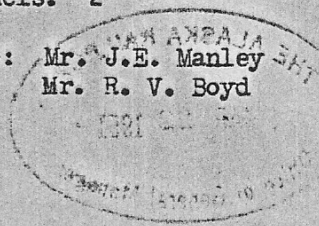
The 400-class engines may be used safely until further notice, provided these engines are used single, or with five cars between engines, and the speed limits and other restrictions now in effect strictly enforced. Although the weight of 400-class engines is only eight or nine tons more than the 500-class engines, the loading affect on the bridges is 17.5 percent to 23.8 percent higher (see attached table).

Continued safe use of the heavier power on this portion of the line will depend on our ability to keep up the necessary maintenance and replacement work. A work program calculated to accommodate the anticipated heavy traffic is attached. Most of this work was recommended in the joint Army, Air Force, Great Northern, and Alaska Railroad inspection, reported last June, and is covered by the special one and one-half million dollar appropriation. Completion of the work has been delayed by shortage of materials and labor, and to a great extent by failure of equipment; namely, pile drivers. High priority for repair work of pile drivers will be necessary.


Irvin P. Cook
Acting Chief Engineer

Encls. 2

cc: Mr. J. E. Manley
Mr. R. V. Boyd



Anchorage, Alaska
March 20, 1951

MEMORANDUM

TO: Mr. C. L. Griffith, Assistant Chief Engineer
FROM: Mr. Elton J. Lewis, E&B Supervisor
SUBJECT: Necessary Structure Work - Seward to Portage
(*Immediate work to accommodate 400 Class Locomotives)

- Bridge 3.0 Needs two new approach spans, bulkheads, ties and guards over steel spans. Remove old filled spans. Paint.
- Bridge 3.2 Needs about three helper bents and remove old filled spans.
- Bridge 3.3 Needs new ties and guards on steel span. Remove old filled spans and bulkheads. Paint.
- Bridge 4.3 Place 36" by 30' C.I.P. Fill from local material and remove old structure, which is very poor condition.
- Bridge 4.5 Fill from local material and remove old structure. Does not need culvert.
- *Bridge 4.8 Redrive and lengthen from 6 to 7 spans. This structure very poor. Needs channel dozing.
- Bridge 6.6 Has a few poor piling but safe until 1952.
- *Bridge 14.5 (Snow River) 48 bents. Needs extra stringers and five helper bents immediately. Will have to be rebuilt in 1952.
- *Open Culvert
18.6 Replace immediately after fross goes out.
19.9 Filled bridge on curve. Remove.
- *Bridge 21.4 Redrive and place sluiceway.
- Open Culvert
21.6 Place 48" by 26' C.I.P. and import fill material. Structure very poor.
- Open Culvert
22.6 Place 24" by 24' C.I.P. and import fill material. Structure unsafe.
- Bridge 25.5 Needs four helper bents.

Necessary Structure Work
Seward to Portage
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*Bridge 25.7 Redrive 33 bents.

Bridge 29.5 Under Construction.

Bridge 34.5 Redrive in 1952. Place extra stringers this year.

Bridge 34.7 Drive one helper bent.

Bridge 35.1 Structure poor. Import fill material and remove old structure. No culvert necessary.

Bridge 35.6 Structure poor. Import fill material and remove old structure. Place 48" by 40' C.I.P.

Bridge 36.0 Structure poor. Import fill material and remove old structure. Place 24" by 24' C.I.P.

Bridge 36.4 Structure partly filled and poor. Doze material and remove old structure.

Bridge 36.6 Short span in poor condition. Import fill material. Place 18" by 24' C.I.P.

Bridge 36.7 Short spans (2) in poor condition. Import fill material. Place 36" by 24' C.I.P. Note: From 35.1 to this bridge, channel changes were made in 1947 but needs additional dozing.

Bridge 37.3 Structure poor. Redrive and lengthen from 4 to 5 spans.

Bridge 37.8 Short spans. Import fill material. Place 36" by 24' C.I.P.

Bridge 38.4 Short span. Place new ties, guard rail and repair bulkheads.

*Bridge 41.6 Redrive five spans. Stubbed in 1950 but shows kink in rail.

Bridge 51.8 (See Contract)

Tunnel 51.9 Replace north portal - Six sets.

Bridge 52.0 Immediate maintenance necessary.

Bridge 54.1 Replace ties on steel structure. Redrive approach spans. Remove old filled structure.

Bridge 56.0 Drive two helper bents and replace stringers. Will have to be redriven in 1952.

Bridge 59.0 Minor repair and new stringers. Redrive in 1952.

Necessary Structure Work
Seward to Portage
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Open Culvert

61.5 Import fill material. Place 48" by 32' C.I.P.

Bridge 64.3 Culvert placed. Import fill material. Remove old structure.

RECOMMENDED PROGRAM:

B & B #1 to finish Bridge 29.5; move to Hunter and work Bridge 41.6 for two weeks; then to Lawing to work 18.6, 21.4, 25.7 and possibly 14.5.

B & B #5 to work from Seward on Bridge 4.8 and repair Bridges 3.0, 3.2, 3.3, 4.3 and 4.5.

Work outlined on bridges marked with an asterisk; namely, 4.8, 14.5, 18.6, 21.4, 41.6 and 25.7, must be completed within the next 60 days and all slow orders and other restrictions now in effect strictly observed in order to permit safe operation of 400-class engines. Use of heavier power on this section of the line is bound to accelerate the deterioration of the old bridge structures. It is entirely possible that additional slow orders and restrictions may become necessary during, or immediately following, the spring thaw.

A close watch is being maintained on the above-mentioned structures. If 400-class locomotives are placed in service, they should be separated by five or more cars.

/s/ Elton J. Lewis

Elton J. Lewis
B&B Supervisor

EJLewis/nd

cc: B. E. Cannon
J. J. Fleming
J. Fouch

<u>Cooper's Equivalent Rating</u>			<u>Effect of Loading in Percent</u> <u>Increase of 400 Cl. over 550 Cl.</u>	<u>Remarks</u>
<u>Span</u>	<u>400 Cl.</u>	<u>550 Cl.</u>		
11	42.7	34.5	23.8%	1 Panel of Wood Truss
14	42.0	34.2	23.0%	Trestle Span
15	41.7	34.3	21.5%	" "
22	41.3	34.4	20.0%	2 Panels of Wood Truss
28	40.9	34.8	17.5%	Trestle Spans

	<u>400 Cl.</u>	<u>550 Cl.</u>	<u>% of 400 Cl. over 550 Cl.</u>
Wt. on Drivers	160,500	141,000	14%
Wt. of Engine	180,000	162,500	11%
Wt. Eng. & Tender	304,700	289,000	5.5%

Anchorage, Alaska
February 26, 1951

Memorandum

To: Mr. John E. Manley, Acting General Manager

From: G. A. Benedict, Supt., M.P. & E.

Subject: Proposed loan of A.R.R. Steam Locomotives to the U.S. Army for emergency Steam Supply in event their Steam Plant was bombed.

Mr. Kesler, Comptroller Air Command, Phone Air Force - 3288, has advised that he has been informed that in case the Army Steam Plant is bombed, The Alaska Railroad would be able to furnish Steam Locomotives for emergency steam supply. He also stated that their Steam Plant has 4 boilers of 120,000 lb. per hr. capacity each and that three of these boilers are in use making a total of 360,000 lbs. per hour of steam available at rated capacity.

He has asked the following questions:

1. How many A.R.R. Steam Locomotives are available for loan.
2. How many pounds of steam these locomotives would furnish per hour.
3. Could the locomotives be spotted so they could be tied in to the steam lines.
4. Would it be necessary to install new connections on the locomotives.
5. What size connections would be needed.

Answers to the above questions are:

1. Steam locomotives available for loan (at the present time):-

2 - 310 Class available.

(Distribution of the 310 class locomotives is):

5 tied up at Birchwood

1 at Whittier

2 at Anchorage

1 at Healy

1 at Fairbanks

10 Total -

No. 400 Class available-distribution of the 400 class Locomotives is:-

#401 required on the Jonesville Mine run.

#402 required on the North Rotary Fleet.

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#403 Out of Service - Account Fire.
#404 Extra Engine at Anchorage
#405 At Healy.
#406 At Anchorage.
6 - Total

No. 550 Class available-distribution of the 550 Class Locomotives is:

10 required on the Seward-Anchorage Division in Freight and Passenger Service.
1 Out of Service - Account Wreck and Fire.
11-Total

No. 700 Class available - distribution of the 700 class Locomotives is:

#701 on North Snow Fleet
#702 Extra Engine Anchorage
#703 Laid up at Fairbanks - Out of Service
3 -Total

No. 800 Class available - distribution of the 800 Class Locomotives is:

#801 - Out of Service - Account Wreck.
#802 - " " " " " "
2 - Total

No. 900 Class available - distribution of the 900 Class Locomotives is:

#901 - Out of Service - Account Wreck.
#902 - Out of Service - Account Fire, but being rebuilt.
2 - Total

As shown above there are only 2 - 310 Class Locomotives available at present for loan.

2. Pounds of Steam these locomotives would furnish. This is estimated at 8300 lbs. per hour per locomotive or a total of 16,600 lbs. per hour for two - 310 Class Locomotives
3. Spotting of locomotives to tie into Steam lines. - We are not familiar with relative positions of the Steam Plant and trackage but it is presumed that the locomotives could be tied in by use of sufficient pipe, fittings, insulation, etc.

Mr. J. E. Manley, Acting Gen. Manager

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February 26, 1951

4. Installation of new fittings on the locomotives. - This would not be necessary as connection could be made to existing Steam Train lines.
5. Size connections needed. - The Steam Train line is 2" diameter.

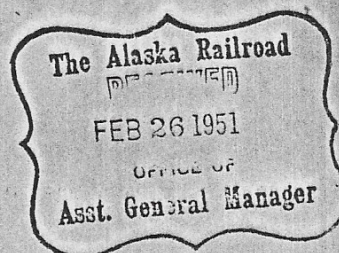
For your information, the steam generating capacity of the various class locomotives has been estimated as follows:

310 Class	-	8300	lbs.	per	hr.	per	Locomotive
400 "	-	8300	"	"	"	"	"
550 "	-	7700	"	"	"	"	"
700 "	-	11500	"	"	"	"	"
800 "	-	12300	"	"	"	"	"
900 "	-	11400	"	"	"	"	"

Mr. Kesler requested that he be advised in regard to the above as soon as possible. If you want this information given to the Army, please advise and a letter will be prepared for your approval and signature.

G. A. Benedict

G. A. Benedict
Supt. of Motive
Power & Equipment



Anchorage, Alaska
January 8, 1951

HDQT. FILE
No. 411.....

Memorandum

To: Mr. John E. Manley, Asst. General Manager
From: G. A. Benedict, Supt. of Motive Power & Equipment
Subj: Alto C.E. 1000 H.P. Locomotives Acquired by the Alaska Railroad

<u>Present ARR Number</u>	<u>U. S. Army Number</u>	<u>Bldra. Serial Number</u>	<u>Purchase Order</u>
1002	8038 ✓	70659	WS-3
1010	8041 ✓	70662	WS-68
1013	8044 ✓	70665	WS-68
1014	8045 ✓	70666	WS-68
1015	8035 ✓	70656	WS-68
1016	8026 ✓	70647	WS-68
1017	8664 ✓	72157	ARR-2665
1018	8048 ✓	70669	WS-3
1026	8042 ✓	70663	WS-68
1027	8049 ✓	70670	WS-3
1028	8029 ✓	70640	ARR-2956
1029	8023 ✓	70641	ARR-2956
1030	8020 ✓	70644	ARR-2956
1031	8005 ✓	69424	ARR-2956
1032	8024 ✓	70645	ARR-2634
1033	8039 ✓	70660	ARR-2634
1034	8013 ✓	69427	ARR-2634
1035	8013 ✓	70634	ARR-3101
1036	8650 ✓	72143	ARR-3101
1041	8004 ✓	69570	ARR-2634
1042	8006 ✓	69425	ARR-3101
1043	8003 ✓	69568	ARR-3101
1050	8040 ✓	70661	WS-2
1051	8054 ✓	70675	WS-2
1052	8055 ✓	70676	WS-68
1054	8056 ✓	70677	WS-3
1069	8002 ✓	69567	ARR-2834
1070	8047 ✓	70668	WS-3
1072	8036 ✓	70573	WS-3
1074	8052 ✓	70657	WS-3
1075	8051 ✓	70572	WS-3
1076	8046 ✓	70667	WS-3
1077	8043 ✓	70664	WS-68
1078	8053 ✓	70674	WS-3
1089	8021 ✓	70642	ARR-2827
1085	8001 ✓	69999	WS-3

G. A. Benedict
G. A. Benedict
Supt., M.P. & E.