

Fewer Signal Failures . . .

. . . I.C.C. Bureau of Safety Reports



THE BUREAU OF SAFETY of the Interstate Commerce Commission, has issued a report for the fiscal year ended June 30, 1954. This report, abstracted herewith, includes several tables and explanations pertinent to the results of inspections of railroad safety appliances; investigation of railroad accidents; signal, interlocking, automatic train stop, train control and cab signal installations; train communication systems; highway grade crossing accidents; and other Bureau of Safety activities. The entire report is available from

the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

There were 27,865 false restrictive failures, compared with 29,509 during the fiscal year ended June 30, 1953, according to one of the tables. A total of 69 false proceed failures occurred, compared with 109 the year previous, and there were 9 potential false proceed conditions, as compared with 15 in 1953.

During the year, 376 applications for approval of modification of block signal systems and interlockings

Tabulation of False-Restrictive Failures for Year Ending June 30, 1954

Name of railroad	False restrictive failures				Total	Name of railroad	False restrictive failures				Total				
	Block systems	Interlocking	Automatic train-stop, train-control, and cab signals	Other systems			Block systems	Interlocking	Automatic train-stop, train-control, and cab signals	Other systems					
Alabama Great Southern	66	21	23		110	Kentucky & Indiana Terminal		14			14				
Alton & Southern		7			7	Lake Superior Terminal & Transfer	2				2				
Ann Arbor	3	9			12	Lehigh & Hudson River	11				11				
Arkansas & Memphis Railway Bridge & Terminal Co.	9				9	Lehigh & New England	2				2				
Atchison, Topeka & Santa Fe	531	555	488		1,574	Lehigh Valley	76	29	6		111				
Atlanta & West Point	49				49	Litchfield & Madison	4				4				
Atlanta Terminal		12			12	Long Island	51	59	607	1	718				
Atlantic Coast Line	387	352	48		787	Louisville & Nashville	556	71	229	1	857				
Baltimore & Ohio	325	223	79	2	629	Maine Central	49	3			52				
Bamberger	4				4	Memphis Union Station		5			5				
Bangor & Aroostook	12	1		37	50	Minneapolis, St. Paul & Sault Ste. Marie	122	21			143				
Belt Railway of Chicago	1	18			19	Missouri-Kansas-Texas	237	22			259				
Bessemer & Lake Erie	3				3	Missouri-Kansas-Texas of Texas	178	14			192				
Boston & Maine	135	126	25		286	Missouri Pacific	393	107			500				
Boston Terminal		86			86	Monongahela	30				30				
Butte, Anaconda & Pacific	13				13	Monongahela Connecting	30				30				
Canadian National		1			1	Nashville, Chattanooga & St. Louis	200	42			242				
Canadian Pacific	21				21	Newburgh & South Shore		23			23				
Central of Georgia	74	8			82	New Orleans & Northeastern	29		16		45				
Central Railroad of New Jersey	97	144	9		250	New Orleans Public Belt	12	8			20				
Chesapeake & Ohio	80	103	19		260	New York Central	1,244	752	206		2,202				
Chicago & Eastern Illinois	165	219	12		396	New York, Chicago, & St. Louis	231	322	35		588				
Chicago & Illinois Midland	17				17	New York, New Haven & Hartford	180	233	15		428				
Chicago & North Western	191	79	261	16	547	New York, Ontario & Western	47				47				
Chicago & Western Indiana	10	48			58	New York, Susquehanna & Western	217	225	70		512				
Chicago, Burlington & Quincy	476	22	12	8	518	Norfolk & Western	642	54			696				
Chicago Great Western	130	10			140	Northern Pacific	3				3				
Chicago, Indianapolis & Louisville	127	9			136	Northwestern Pacific	46				46				
Chicago, Milwaukee, St. Paul & Pacific	480	77	99		656	Pacific Electric	3	56			59				
Chicago, Rock Island & Pacific	511	218	48		777	Pennsylvania	307	695	1,322	14	2,338				
Chicago, St. Paul, Minneapolis & Omaha	37	2			39	Pennsylvania-Reading Seashore Lines	15	21	30		66				
Chicago, South Shore & South Bend	131	12		2	145	Peoria & Pekin Union	6	17		5	28				
Chicago Union Station		7			7	Pere Marquette	185	116	5		306				
Cincinnati Union Terminal		121			121	Pittsburgh & West Virginia	62				62				
Cincinnati, New Orleans & Texas Pacific	56	6	3		65	Portland Terminal	2	7			9				
City of St. Louis Municipal Bridge	47				47	Portland Traction	146				146				
Clinefield	51				51	Reading	81	70		1	151				
Dayton Union		12			12	River Terminal	62	68	68		189				
Delaware & Hudson	203	75			278	Richmond, Fredericksburg & Potomac	81				81				
Delaware, Lackawanna & Western	208	70	7		285	Rutland	1				1				
Denver & Rio Grande Western	371	30			401	Sacramento Northern	18	8			26				
Denver Union Terminal		28			28	St. Louis-San Francisco	388	30			424				
Detroit & Toledo Shore Line	16				16	St. Louis-San Francisco & Texas	4			1	5				
Detroit, Toledo & Ironton		3			3	St. Louis Southwestern	111				111				
Duluth, Missabe & Iron Range	17	33			50	Seaboard Air Line	702				702				
Elgin, Joliet & Eastern	8	40			48	Southern	485	33	92		610				
Erie	75	33	47	4	159	Southern Illinois & Missouri Bridge	7				7				
Florida East Coast	290				290	Southern Pacific	391	116	64		571				
Fort Dodge, Des Moines & Southern	1	10			11	Spokane, Portland & Seattle	70				70				
Georgia	88				88	Terminal Railroad Association of St. Louis	76	104			180				
Georgia, Southern & Florida	18		13		31	Texas & New Orleans	159	18			177				
Grand Trunk Western	148	26		39	213	Texas & Pacific	228	4			232				
Great Northern	340	33			373	Toledo, Peoria & Western	16			4	20				
Gulf, Mobile & Ohio	134	20	5		160	Union Pacific	529	82	28	110	749				
Houston Belt & Terminal		7			7	Utah	10				10				
Hudson & Manhattan	30	52	10		92	Virginian	50	51		6	107				
Illinois Central	460	119	230		809	Wabash	148	39			187				
Illinois Terminal	194	44			238	Washington Terminal	111	68			179				
Indianapolis Union		20			20	Western Maryland	128	17			145				
International-Great Northern	90	4			94	Western Pacific	49	1			50				
Jacksonville Terminal	3	131			134	Western Railway of Alabama	4				4				
Kansas City Southern	106	41			147	Youngstown & Northern									
Kansas City Terminal		173			173										
					Total						Total				
					173						16,167	7,225	4,222	261	27,865

were filed by the carriers, and at the beginning of the year action was pending on 44 applications previously filed; of these 402 applications were acted upon, and action was pending on 18 applications at the close of the year.

During the year, inspections were made as follows: block signal systems, 898; interlockings, 2,282; automatic train control and cab signal devices, 562; traffic control systems, 531; other similar appliances, methods, or systems, 38; total, 4,311.

According to reports submitted by carriers, there were 295 train communication systems in service for operation over a total of 61,743 miles of road on 65 different railroads on January 1, 1954. In addition to radio and inductive installations, these systems included end-to-end communication installations employing physical wire connections through the train, and installations providing radio-telephone service

through commercial telephone company radio facilities, operating over 5,981 miles of road. Considering only radio and inductive systems used in connection with railroad operation, 285 installations were in service on 55,762 miles of road on 63 railroads. This compares with 96 such installations on 41,846 miles of road on 51 railroads as of January 1, 1953. There were 295 installations in service in yards and terminals on 75 railroads; 264 of these installations provide communication between fixed stations and switching engines, and 31 provide communication between portable pack radios; between fixed stations and portable pack radios; and between fixed stations and mobile units other than engines used in several different yard operations. This compares with 220 installations in service on 70 railroads as of January 1, 1953.

During the calendar year 1953, there were 3,675 accidents at high-

way grade crossings, which resulted in the death of 1,494 persons and injury to 3,815 persons. Automobiles were involved in 3,383 of these accidents, in which 1,319 persons were killed and 3,688 injured. There were 65 derailments of trains at highway crossings involving automobiles, which caused the death of 34 persons and injury to 98 persons. Of the total casualties resulting from derailments and other train accidents at highway grade crossings, 10 persons were killed and 120 were injured.

Improved Performance Each Year

	False Restrictive Failures	False Proceed Failures
1947	39,990	227
1948	42,282	223
1949	35,860	156
1950	32,918	143
1951	33,758	140
1952	32,885	119
1953	29,509	109
1954	27,865	69

Causes of False-Proceed Failures for Year Ending June 30, 1954

Name of railroad	Sand, rust, or other deposit on rails	Failure of relays and similar devices	Circuits open, crossed or grounded, foreign current, et cetera	Apparatus broken, defective, or out of adjustment	Failure of apparatus due to sleet, ice, snow, wet track, weather, or lightning	Failure of apparatus due to obstruction	Errors in making connections or adjustments	Undetermined	Total
Alabama Great Southern		2							2
Atchison, Topeka & Santa Fe			1				2		3
Atlantic Coast Line			1			1			2
Baltimore & Ohio	1	2	1		1		1		5
Boston & Maine	1			1					2
Central Railroad of New Jersey							1		1
Chesapeake & Ohio	2								2
Chicago & North Western			1						1
Chicago & Western Indiana					1				1
Chicago, Burlington & Quincy			1				2		3
Chicago Great Western				1					1
Chicago, Indianapolis & Louisville					1				1
Chicago South Shore & South Bend			1						1
Denver & Rio Grande Western				1				1	2
Houston Belt & Terminal	1								1
Illinois Central			1						1
Illinois Terminal			1			2			3
Louisville & Nashville			1						1
Maine Central			1						1
Missouri-Kansas-Texas of Texas		1							1
Missouri Pacific	1								1
New York Central	8		1	1	1	1	1	3	16
New York, New Haven & Hartford				1		1			2
Pennsylvania			1		1		3	3	8
Richmond, Fredericksburg & Potomac			1						1
Seaboard Air Line				1			1		2
Terminal Railroad Association of St. Louis	1								1
Texas and New Orleans						1			1
Union Pacific				1					1
Western Railway of Alabama			1						1
Total	15	5	13	7	7	4	11	7	69

Causes of Potential False-Proceed Conditions for Year Ending June 30, 1954

Name of railroad	Sand, rust, or other deposit on rails	Failure of relays and similar devices	Circuits open, crossed or grounded, foreign current, et cetera	Apparatus broken, defective or out of adjustment	Failure of apparatus due to sleet, ice, snow, wet track, weather, or lightning	Failure of apparatus due to obstruction	Errors in making connections or adjustments	Undetermined	Total
Chicago & North Western		1	1						2
Cincinnati Union Terminal			1						1
Delaware & Hudson			1				1		1
Illinois Central				1					1
Louisville & Nashville								1	1
Newburgh & South Shore	1								1
New York Central			1						1
Pennsylvania			1						1
Total	1	1	4	1			1	1	9