Treating

HOLLOW HEART

IS A SPECIAL ART

and OSMOSE

Has the "KNOW-HOW"!

Just a few years ago, decay in the interior of a pole at the ground-line area was considered a pretty hopeless case. Today, Osmose is saving many thousands of these afflicted poles with its exclusive Hollow Heart Treatment.

After boring, a specially designed Shell Thickness Indicator is used to evaluate the remaining wood strength in relation to the load. If the pole can be saved, the OSMOSE Hollow Heart treatment is applied. This consists of literally flooding cavities with a highly concentrated solution of toxic OSMOSALTS suspended in water. Decay is stopped in its tracks. Your poles remain sound for years and years more of safe, money-saving service.

Discover the full story of the OSMOSE program for ground-line inspection and treatment. Write Osmose Wood Preserving Co. of America, Inc., 990 Ellicott Street, Buffalo 9, N. Y.

Osmose®

SERVING UTILITIES SINCE 1935

	Signal Performance	
	False Restrictive Failures	False Proceed Failures
1959	25,590	67*
1958	25,299	72
1957	28,065	74
1956	29,761	76
1955	27,371	70
1954	27,865	69
1953	29,509	109
1952	32,885	119
1951	33,758	140
1950	32,918	143
1949	35,860	156

* Includes 8 potential failures

Total Signaling Installed in the U. S.

Type of Signal Protection	Jan. 1, 1959	Jan. 1, 1958
Block signal systems	107,693.6 Rd mi 136,982.3 Tk mi	109,894.8 Rd mi 139,594.7 Tk mi
Train control, train stop and cab signals	14,198.1 Rd mi 25,285.0 Tk mi 9,344 Locos	14,227.9 Rd mi 15,322.2 Tk mi 9,770 Locos
Interlockings	4,160 Plants	4,184 Plants

ICC Reports RR Safety

False proceed failures have declined to the lowest point in the last 10 years, as recorded in the annual Report of the Section of Railroad Safety to the ICC for the fiscal year ended June 30, 1959, just released. False restrictive failures have shown a slight rise over the previous year. The tables shown on page 50, reprinted from the report, give a detailed account of the false restrictive failures, false proceed failures, and highway crossing accidents. These tables are for the calendar year 1958.

During the year the Section investigated 49 accidents, which had resulted in 100 deaths and 945 injuries, and inspected 4,166 signal systems. Of 35 collisions investigated, 21 had occurred where automatic block systems or interlockings were in effect. Failure to obey signal indications was the cause of 7 collisions.

The total amount of railroad mileage protected by signal systems, the number of locomotives equipped with train stop, train control, and cab signals, and the number of interlocking plants all had decreased as of January 1, 1959, compared with January 1, 1958. The Commission acted upon 309 applications for approval of modifications and relief from the Rules, Standards and Instructions. The number of pending applications was 90, up from 73 at the beginning of the year, despite an increase of 42 in the applications acted upon.

Train Communications Systems

Radio and inductive systems of train communications used in connection with railroad operation were in service on 109,899 miles of road on 121 railroads. This is an increase from the 103,004 miles of road on 97 railroads with these communications systems as of January 1, 1958. There were 816 communications installations in service in yards and terminals on 135 railroads. This compares with the 706 installations in service on 109 railroads the previous year.

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FALSE RESTRICTIVE FAILURES

Name of railroad	False restrictive failures				
	Block systems	Interlocking	ATS ATC ACS	Other systems	Total
Alabama Great Southern	76	45	15		136
Alton & Southern	8	21			29
Ann Arbor	2	17			19
Arkansas & Memphis Ry. Bridge & Term. Co.		2			2
Atchison, Topeka & Santa Fe	311	280	238		829
Atlanta & West Point	37				37
Atlanta Terminal		33			33
Atlantic Coast Line	196	218	28	55	497
Baltimore and Ohio	455	211	107		773
Baltimore and Ohio Chicago Terminal	45	105			150
Bangor & Aroostock	110			58	168
Belt Railway of Chicago	1	13			14
Bessemer & Lake Erie	43			2	45
Birmingham Terminal		54			54
Boston & Maine	102	106	17		225
Boston Terminal		39			39
Butte, Anaconda & Pacific	28				28
Canadian National		1			1
Central of Georgia	98	4			102
Central R. R. of New Jersey	61	121	1	1	184
Chesapeake & Ohio	240	161	42		443
Chicago & Eastern Illinois	186	150		22	358
Chicago & Illinois Midland	46	6			52
Chicago & North Western	312	155	166		633
Chicago & Western Indiana	15	36			51
Chicago, Burlington & Quincy	416	14	4		434
Chicago Great Western	177	14			191
Chicago, Milwaukee, St. Paul & Pacific	502	107	91		700
Chicago, North Shore & Milwaukee	47	38			85
Chicago, Rock Island & Pacific	554	122	6		682
Chicago, South Shore & South Bend	81	2		1	84
Chicago Union Station		6			6
Cincinnati, New Orleans & Texas Pacific	34	47	13	9	103
Cincinnati Union Terminal		100			100
City of St. Louis Municipal Bridge		42			42
Clinchfield	46				46
Colorado & Southern	7				7
Dayton Union		18			18
Delaware & Hudson	152	101			253
Delaware, Lackawanna & Western	143	75	7		225
Denver & Rio Grande Western	389	10			399
Denver Union Terminal		15			15
Detroit & Toledo Shore Line	6				6
Detroit, Toledo & Ironton		9			9
Duluth, Missabe & Iron Range	10	23		4	37
Elgin, Joliet & Eastern	17	134			151
Erie	135	77	78	4	294
Florida East Coast	189				189
Fort Dodge, Des Moines & Southern				4	4
Fort Worth and Denver	66				66
Georgia	72				72
Georgia Southern & Florida	69		2	8	79
Grand Trunk Western	185	64			249
Great Northern	373	40			413
Green Bay & Western	11	1			12
Gulf, Mobile & Ohio	119	28	10		157
Houston Belt & Terminal	3	13			16
Hudson & Manhattan	118	103	131	2	354
Illinois Central	327	46	107		480
Illinois Terminal	112	14			126
Indianapolis Union		25			25
International Ry. Co. of Maine	7				7
Jacksonville Terminal	1	83			84
Kansas City Southern	188	132			320
Kansas City Terminal		454			454
Kentucky & Indiana Terminal		30			30
Lake Superior & Ishpeming		8		1	9
Lake Superior Terminal & Transfer	4				4
Lehigh & Hudson River	31				31
Lehigh & New England		3			3
Lehigh Valley	82	25	5		112
Long Island	15	33	446		494
Los Angeles Passenger Terminal		13			13
Louisville & Nashville	557	117	131		805
Maine Central	65	14			79
Memphis Union Station		59			59
Minneapolis, St. Paul & Sault Ste. Marie	164	23			187
Missouri-Kansas-Texas	293	20		14	327
Missouri-Kansas-Texas of Texas	249	10			259
Missouri Pacific	491	157			648
Monon	135	11			146
Monongahela	32				32
Monongahela Connecting	26				26
New Jersey & New York	7				7
New Orleans & Northeastern	49	1	11		61
New Orleans Public Belt	4	1			5
New Orleans Union Passenger Terminal		15			15
New York Central	672	505	302		1,479
New York, Chicago & St. Louis	17	46	40		103
New York, New Haven & Hartford	126	223	2		351
New York, Susquehanna & Western	2	1			3
Norfolk & Western	122	195			317
Northern Pacific	796	47			843
Pacific Electric	42	62			104
Paducah & Illinois	1				1
Pennsylvania	528	770	1,308	11	2,617
Pennsylvania-Reading Seashore Line	28		41		69
Peoria & Pekin Union	11	20		1	32
Pittsburgh & West Virginia	100				100
Portland Terminal	1	2			3
Reading	62	62	3		127
Richmond, Fredericksburg & Potomac	34	41	7		82
River Terminal		91			91
Rutland		11			11
Sacramento Northern		3			3
St. Louis-San Francisco	261	16			277
St. Louis Southwestern	62				62
Seaboard Air Line	388	26			414
Southern	549	107	86	10	752
Southern Illinois & Missouri Bridge	7				7
Southern Pacific	494	70	29		593
Spokane, Portland & Seattle	74	4			78
Terminal R.R. Assn. of St. Louis	4	220			224
Texas & New Orleans	189	50			239
Texas & Pacific	175				175
Texas Pacific-Missouri Pacific Terminal Railroad of New Orleans		1			1
Toledo, Peoria & Western		14			14
Union		2		1	3
Union Pacific	426	20	14		460
Utah	4				4
Virginian	46	14		5	65
Wabash	191	39			230
Washington Terminal		137		1	138
Western Maryland	48	26			74
Western Pacific	138	2			140
Western Ry. of Alabama	56				56
Total	14,786	7,102	3,488	214	25,590

CAUSES OF FALSE-PROCEED FAILURES

Name of railroad	Sand, rust, or other deposit on rails	Failure of relays and similar devices	Circuits open, crossed, or grounded, foreign current, etc.	Apparatus broken, defective, or out of adjustment	Failure of apparatus due to ice, sleet, snow, wet track, weather, or lightning	Failure of apparatus due to obstruction	Errors in making connections or adjustments	Undetermined	To
Atchison, Topeka & Santa Fe	1		3						
Atlantic Coast Line			1						
Boston & Maine							1		
Chesapeake & Ohio	1		1	1					
Chicago, Burlington & Quincy			1		1		2		
Chicago & Eastern Illinois			1						
Chicago & North Western			2						
Chicago, South Shore & South Bend				1	2				
Chicago Union Station				1					
Delaware & Hudson							1		
Erie			1		1		1		
Green Bay & Western			1						
Hudson & Manhattan			1						
Illinois Central		2		1	1				
Jacksonville Terminal	1							1	
Lehigh Valley									
Louisville & Nashville	1								
Missouri Pacific							1		
Monon	1		1						
New York Central			1	1				1	
Norfolk & Western		1		1					
Northern Pacific				1	2				
Pennsylvania	2		1	1				2	
Richmond, Fredericksburg & Potomac							1		
St. Louis-San Francisco					1		1		
Southern Pacific			1						
Southern					1				
Texas & New Orleans		1							
Wabash	1								
Washington Terminal	1								
Western Ry. of Alabama				1					
Total	9	4	16	9	9		6	4	

Causes of Potential False Proceed Conditions

Atchison, Topeka & Santa Fe		1						
Chicago, Burlington & Quincy			1					
Hudson & Manhattan		1						
Illinois Central				1				
Lehigh Valley				1				
New York, Chicago & St. Louis							1	
Northern Pacific					1			
Seaboard Air Line			1					
Total		2	2	2	1		1	

ACCIDENTS AT HIGHWAY GRADE CROSSINGS

	1956			1957			1958		
	Number	Number of Persons		Number	Number of Persons		Number	Number of Persons	
		Killed	Injured		Killed	Injured		Killed	
Accidents at highway grade crossings	3,639	1,338	3,755	3,569	1,371	3,767	3,089	1,271	3,1
Accidents at highway grade crossings involving motor vehicles	3,379	1,202	3,629	3,283	1,217	3,613	2,982	1,139	3,0
Derailments of trains at highway grade crossings involving motor vehicles	66	49	115	58	32	56	46	20	
Miscellaneous train accidents as a result of collisions between trains and motor vehicles	347	155	161	183	126	184	84	66	
Motor vehicles registered	65,212,510			67,135,546			68,399,508		
Railroad casualties:									
Passengers			83			51			
Employees on duty		9	64		11	95		6	
Persons carried under contract		1	5						
Travelers not on trains									
Total		10	152		11	146		6	

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