

The President's 1982 Annual Report

To the Congress on the
Administration of the
Federal Railroad Safety
Act of 1970

January 1984



U.S. Department
of Transportation
**Federal Railroad
Administration**

**FEDERAL RAILROAD SAFETY ACT OF 1970
Annual Reports on Implementation
(1970-1984)**

Office of Safety

DOT/FRA/RRS

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MANDATE

The following is extracted from Section 211 of Public Law 91-458, dated October 16, 1970:

SEC. 211 ANNUAL REPORT.

(a) The Secretary shall prepare and submit to the President for transmittal to Congress...a comprehensive report on the administration of this title for the preceding calendar year. Such report shall include, but not be restricted to:

(1) a thorough statistical compilation of the accidents and casualties by cause occurring in such year;

(2) a list of Federal railroad safety rules, regulations, orders, and standards issued under this title in effect or established in such year;

(3) a summary of the reasons for each waiver granted under section 202(c) of this title during such year;

(4) an evaluation of the degree of observance of applicable railroad safety rules, regulations, orders, and standards issued under this title;

(5) a summary of outstanding problems confronting the administration of Federal railroad safety rules, regulations, orders, and standards issued under this title in order of priority;

(6) an analysis and evaluation of research and related activities completed (including the policy implications thereof) and technological progress achieved during such year;

(7) a list, with a brief statement of the issues, of completed or pending judicial actions for the enforcement of any Federal railroad safety rule, regulation, order, or standard issued under this title;

(8) the extent to which technical information was disseminated to the scientific community and consumer-oriented information was made available to the public;

(9) a compilation of-

(A) certifications filed by State agencies under section 206(a) of this title which were in effect during the preceding calendar year, and

(B) certifications filed under section 206(a) of this title which were rejected, in whole or in part, by the Secretary during the preceding calendar year, together with a summary of the reasons for each such rejection; and

(10) a compilation of-

(A) agreements entered into with State agencies under section 206(c) of this title which were in effect during the preceding calendar year, and

(B) agreements entered into under section 206(c) of this title which were terminated by the Secretary, in whole or in part, during the preceding calendar year, together with a summary of the reasons for each such termination.

(b) The report required by subsection (a) of this section shall contain such recommendations for additional legislation as the Secretary deems necessary to strengthen the national railroad safety program.

SECTION I

INTRODUCTION

This report describes the efforts of the Department of Transportation (DOT) and the Federal Railroad Administration (FRA) to improve railroad safety through the administration of the Federal Railroad Safety Act of 1970 (45 U.S.C. 421 et seq.) during the calendar year 1982.

In 1981, FRA shifted the emphasis of its safety program toward a more cooperative, working relationship with the railroads and their employees. The new direction is an acknowledgment that the success of the FRA's safety program is determined by the effectiveness of this Government-industry relationship.

As evidence that the cooperative approach is succeeding, train accidents decreased 20.6 percent in 1982 compared to 1981. (The decrease was 5.8 percent when normalized by train-miles.) We believe this continuing improvement is due to the combined efforts of the FRA and rail labor and management.

Although this report concerns itself with events in calendar year 1982, judicial actions that have come to fruition in early 1983 are included, for the benefit of the reader.

SECTION III
RULES AND REGULATIONS

A list of the Federal regulations issued under the provisions of the Federal Railroad Safety Act of 1970 and in effect during 1982 is contained in Appendix B.

The following final rules were issued by FRA during 1982:

- o Track Safety Standards. Final rules were issued on September 7, 1982, on the basis of a cooperative agreement between labor and management. The amendments revised and clarified existing rules and eliminated certain rules no longer considered necessary for safety.
- o Power Brakes and Drawbars. Final rules were issued on August 23, 1982, on the basis of a cooperative agreement between labor and management. The amendments eliminated or modified certain costly and controversial rules no longer considered necessary for safety. The final rule is expected to produce an annual savings of over \$100 million.
- o State Safety Participation. A final rule was issued on September 16, 1982, to implement the expanded State authority contained in the Railroad Safety Authorization Act of 1980.
- o Adjustment of Monetary Threshold. A final rule was issued on December 16, 1982, to increase the monetary threshold from \$3,700 to \$4,500 for reporting railroad accidents/incidents.

SECTION V
EVALUATION OF COMPLIANCE

The FRA has been conducting systemwide safety assessments since 1979. The objective of an assessment is a comprehensive appraisal of all aspects of safety on a railroad. After the field work is completed, a detailed report is prepared, and a post-assessment conference is held with labor and management to discuss the findings and recommendations.

Although the effectiveness of the 1982 system assessments has not been fully determined, three comprehensive system assessments were completed in 1979 and 1980. They encompassed the total operations of three railroads. By December 1982, two of these railroads showed a decrease in accidents of 82 and 78 percent. The third railroad made an initial improvement of 5 percent but shortly thereafter declared bankruptcy.

In 1982, FRA held four Safety Analysis Conferences with railroad companies. At each of these conferences, FRA personnel and top-level railroad management discussed the overall safety record and safety trends of each railroad as compared to other railroads of similar size, as well as to the industry as a whole. As a result of these discussions specific problems have been expeditiously corrected and major carrier rules have been adjusted.

During 1982, FRA completed several research projects that will improve safety in the transport and handling of hazardous materials. The Office of Research and Development tested thermal protection mechanisms for hazardous material vehicles; examined and analyzed tank car steels and safety valves involved in railroad accidents; developed procedures for post-accident responses to hazardous materials accidents; and identified the equipment, procedures, and commodities most likely to lead to hazardous materials injuries to railroad employees and others. Work continued on the study of the heat transfer from railroad fires to nuclear-spent fuel casks. An analysis of the safety valve requirements for ethylene oxide tank cars is being completed. A small-scale test methodology to evaluate the puncture resistance of tank car designs is nearing completion. In addition, FRA developed guidelines for responding to railroad hazardous materials accidents and distributed them to railroads, shippers, rail labor groups, and emergency-response groups.

FRA funds a portion of the Track-Train Dynamics Program. Work under this program in 1982 included a detailed study of alternative materials for freight car construction, initiation of a 100-ton covered hopper car test program, continuation of the brake-shoe performance tests and data analysis, and completion of the lateral track strength tests.

Track Safety Inspection

FRA continued work on the development of an improved rail defect-detection device that employs electromagnetic acoustic transducer technology. A laboratory test demonstrated the ability of this type of device to detect several types of flaws more reliably than previous systems. A cooperative research effort was established with the industry to continue and promulgate this research.

The research to support track safety performance specifications progressed with completion of testing in the low-speed range. These tests will be used to define the safety limits for maintaining gauge under dynamic loading and to identify safety limits for track geometry deviations. The first of a series of tests at the Transportation Test Center to evaluate rail defect growth rates was completed. This information will help to identify how long defective track can remain in service after the defects are detected. FRA conducted field and laboratory tests to demonstrate the ability of a new performance-based safety specification to control rock and roll derailments. The approach uses a single index to set forth a variety of combinations of cross-level amplitude and location in the track, all of which could create critical conditions leading to a derailment.

SECTION VII

JUDICIAL ACTIONS

The following are brief descriptions of judicial actions under the Federal Railroad Safety Act of 1970 and other safety statutes, including actions completed during 1982 or thereafter and those currently pending.

Completed

Brotherhood of Locomotive Engineers v. Lewis (S.D. Tex.): July 1981 suit for mandamus alleging that the Missouri Pacific Railroad Company violated the Hours of Service Act by releasing crews at a point where food and lodging were not available and transporting crews to adequate facilities up to 20 miles away. After the case had been fully briefed, the plaintiffs offered to dismiss the case without conditions. Pursuant to stipulation, the court dismissed the case without prejudice in February 1982.

Brotherhood of Railroad Signalmen v. Lewis (D. Colo.): July 1981 suit claiming that in reconnecting plugs that had been pulled out of rock slide detector fences by rockslides, track patrolmen who worked for Denver & Rio Grande Western Railroad were engaged in "repairing or maintaining" signal systems within the meaning of section 3A of the Hours of Service Act (45 U.S.C. § 63a) and were, therefore, performing "covered service" subject to the hours' limitations in the Act. FRA excluded such activity from covered service because it required no expertise. After settlement discussions, the union and the railroad agreed to abide by FRA's interpretation; the railroad issued instructions to its employees consistent with FRA's interpretation. On February 1, 1983, the court entered an order approving a joint stipulation of dismissal and dismissed the case.

United States v. Gibbons (N.D. Ill.): July 1981 and July 1982 suits against the trustee of the Chicago, Rock Island, and Pacific Railroad to collect civil penalties for various safety violations, including \$250,000 in liquidated claims and \$2.1 million in unliquidated claims. The trustee defended by asserting that the settlement agreements for the \$250,000 were secured through undue pressure and that, in any event, the penalties were not justified, given the statute's purpose to deter future violations--which the railroad, having ceased operations, was in no position to commit. In October 1982, FRA and the Rock Island executed a comprehensive agreement whereby all outstanding FRA claims against the Rock Island, including safety claims, were settled. A total of over \$1.1 million of the settlement has been allocated to Rock Island's safety claims.

United Transportation Union v. Dole (S.D. Ala. and 11th Cir.), decision reported at 699 F.2d 1109: October 1981 suit seeking an FRA emergency order and other relief to require the Burlington Northern (BN) to keep its Magnolia Hotel sleeping quarters in clean and safe condition, as required by the Hours of Service Act. On March 11, 1983, the Eleventh Circuit reversed the lower court's ruling that employee sleeping quarters is not a proper subject for emergency orders, and remanded for a trial on the merits of the emergency order. The plaintiff has moved for leave to amend the complaint in order to challenge FRA's failure to submit information of alleged violations to the U.S. Attorney for the filing of a civil penalty suit against BN.

Railway Labor Executives' Association v. Dole (D. Ore.): April 1983 suit by RLEA and an individual railroad worker challenging FRA's alleged failure to enforce existing railroad safety laws and seeking declaratory and injunctive relief. The plaintiff alleges that FRA has a mandatory duty to cite all violations that come to its attention. Trial or oral argument on dispositive motions is tentatively set for September 19, 1983.

Brotherhood Railway Carmen v. Dole (S.D. Calif.): April 1983 suit alleging rail employees are exposed to death or injury due to FRA's failure (i) to order the Atchison, Topeka & Santa Fe Railway (Santa Fe) to cease using unqualified trainmen (as opposed to carmen) to perform air brake inspections and tests, and (ii) to perform inspections for violations of various Federal railroad safety laws. The case arose from the furlough of carmen by the Santa Fe. The plaintiff seeks an emergency order and injunctive relief. An FRA investigation of an earlier Carmen's complaint did not reveal any evidence that unqualified Santa Fe employees were performing air brake inspections at San Diego. It did disclose other violations of the safety laws, for which FRA has filed civil penalty claims against the railroad. FRA filed a memorandum in opposition to the plaintiff's requests. Santa Fe intervened and also filed an opposition. At a hearing on May 20 in San Diego, the court denied the plaintiff's request for a preliminary injunction.

SECTION IX

STATE PARTICIPATION PROGRAM

Under the State Participation Program, authorized by Section 206 of the Federal Railroad Safety Act of 1970, FRA provides financial assistance to States participating in the enforcement of Federal rail safety requirements.

During 1982, 30 States, employing 95 State inspectors, took part in the program. These State inspectors participated in the track (63) and freight car (32) inspection disciplines.

FRA continued to provide 100 percent funding for State inspector training at DOT's Transportation Safety Institute (TSI) in Oklahoma City, Oklahoma. TSI offers orientation, guidance, and training in a classroom atmosphere for State and Federal inspectors.

The Federal Railroad Safety Authorization Act of 1980 (P.L. 96-432) directed the Secretary of Transportation to expand the program, as may be appropriate, to include additional inspector disciplines. As described in Section III, revised State Participation Regulations (49 CFR 212) were published on September 16, 1982.

Table 2 lists the States participating in the program at the end of 1982.

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APPENDIX A—ACCIDENT/INCIDENT STATISTICS

Table A-1
Summary of Casualties by Type of Accident/Incident for 1981 and 1982

Type Accident/Person	X Of Total		Total Cases		...Killed...		...Injured...		...Illness...	
	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982
TRAIN ACCIDENTS - RAIL EQUIPMENT ACCIDENT/INCIDENT CASUALTIES										
EMPLOYEE ON DUTY.....	.73	.78	399	321	9	9	380	298	10	14
EMPLOYEE NOT ON DUTY...	.01	.01	3	3	1	1	2	1	---	2
PASSENGER ON TRAIN....	.02	.07	10	29	---	3	10	26	---	---
NONRESPASSER.....	.02	.01	11	5	---	---	11	5	---	---
TRESPASSER.....	.01	.03	7	14	3	2	4	12	---	---
CONTRACTOR EMPLOYEE...	.00	---	1	---	---	---	1	---	---	---
TOTAL.....	.79	.90	431	372	13	14	408	342	10	16
TRAIN INCIDENT CASUALTIES										
EMPLOYEE ON DUTY.....	12.44	12.13	6,753	5,020	33	35	6,563	4,902	157	83
EMPLOYEE NOT ON DUTY...	.05	.02	25	10	1	---	23	7	1	3
PASSENGER ON TRAIN....	.31	.28	168	114	4	3	164	111	---	---
NONRESPASSER.....	.13	.11	73	46	11	7	62	39	---	---
TRESPASSER.....	1.70	2.03	925	840	446	397	478	443	1	---
CONTRACTOR EMPLOYEE...	.02	.02	12	7	1	2	11	5	---	---
TOTAL.....	14.66	14.58	7,956	6,037	496	444	7,301	5,507	159	86
NONTRAIN INCIDENT CASUALTIES										
EMPLOYEE ON DUTY.....	74.82	74.02	40,620	30,638	22	30	39,519	29,823	1,079	785
EMPLOYEE NOT ON DUTY...	1.13	1.19	614	494	---	2	605	491	---	1
PASSENGER ON TRAIN....	.43	.60	231	250	---	3	231	247	---	---
NONRESPASSER.....	.47	.49	257	201	4	2	252	199	---	---
TRESPASSER.....	.17	.19	94	80	17	15	77	65	---	---
CONTRACTOR EMPLOYEE...	.12	.19	63	78	4	2	59	76	---	---
TOTAL.....	77.14	76.68	41,879	31,741	47	54	40,743	30,901	1,089	786
RAIL-HIGHWAY GRADE CROSSING ACCIDENT/INCIDENT CASUALTIES (EXCLUDED FROM ABOVE CATEGORIES)										
EMPLOYEE ON DUTY.....	.24	.32	131	131	1	4	130	123	---	4
EMPLOYEE NOT ON DUTY...	.01	.01	5	4	---	---	5	4	---	---
PASSENGER ON TRAIN....	.01	.01	4	3	---	---	4	3	---	---
NONRESPASSER.....	6.56	6.93	3,563	2,868	611	516	2,932	2,352	---	---
TRESPASSER.....	.58	.57	317	238	116	87	201	151	---	---
CONTRACTOR EMPLOYEE...	.00	---	1	---	---	---	1	---	---	---
TOTAL.....	7.41	7.84	4,021	3,244	728	607	3,293	2,633	---	4
GRAND TOTALS BY TYPE OF PERSON										
EMPLOYEE ON DUTY.....	88.24	87.23	47,903	36,110	65	78	46,592	35,146	1,246	886
EMPLOYEE NOT ON DUTY...	1.19	1.23	647	511	2	2	635	503	10	6
PASSENGER ON TRAIN....	.76	.96	413	396	4	9	409	387	---	---
NONRESPASSER.....	7.19	7.54	3,904	3,120	626	525	3,277	2,595	1	---
TRESPASSER.....	2.47	2.83	1,343	1,172	582	501	760	671	1	---
CONTRACTOR EMPLOYEE...	.14	.21	77	85	5	4	72	81	---	---
TOTAL.....	100.00	100.00	54,287	41,394	1,284	1,119	51,745	39,383	1,258	892

NOTE: Rail-highway crossing casualties include those occurring at both public and private crossings

SOURCE: Preliminary data for the Accident/Incident Bulletin for 1982

APPENDIX B

Regulations and Orders Issued Under the Provisions of the Federal Railroad Safety Act of 1970

- State Participation Regulations (49 CFR 212)
Authority: Section 202 and 206, 84 Stat. 971;
45 U.S.C. 421 et seq.; 49 CFR 1.49(n).
Source: 47 FR 41048, September 16, 1982.
- Track Safety Standards (49 CFR 213)
Authority: Section 202 and 209, 84 Stat. 971 and 975;
45 U.S.C. 431 and 438, and 49 CFR 1.49(n).
Source: 47 FR 39398, September 7, 1982.
- Railroad Freight Car Safety Standards (49 CFR 215)
Authority: Sections 202 and 209, 84 Stat. 971 and 975;
45 U.S.C. 431 and 438, and 49 CFR 1.49(n).
Source: 44 FR 77340, December 31, 1979.
- Railroad Operating Rules (49 CFR 218)
Authority: Section 202, 84 Stat. 971;
45 U.S.C. 431 and 49 CFR 1.49(n).
Source: 44 FR 2175, January 10, 1979.
- Radio Standards and Procedures (49 CFR 220)
Authority: Sections 202 and 209, 84 Stat. 971 and 975;
45 U.S.C. 431 and 438; and 49 CFR 1.49(n).
Source: 42 FR 5065, January 27, 1977.
- Rear End Marking Device - Passenger, Commuter, and Freight
Trains (49 CFR 221)
Authority: Section 202, 84 Stat. 971; 45 U.S.C. 431
and 49 CFR 1.49(n).
Source: 42 FR 2321, January 11, 1977.
- Safety Glazing Standards - Locomotives, Passenger Cars,
and Cabooses (49 CFR 223)
Authority: Section 202, 84 Stat. 971; 45 U.S.C. 431
and 49 CFR 1.49(n).
Source: 44 FR 77352, December 31, 1979.

APPENDIX C

Waiver Petitions Granted

Track Safety Standards (49 CFR 213)

Approved January 12, 1982

RST-81-3: The Union Pacific Railroad Company petitioned for temporary relief from the Track Safety Standards on yard tracks leased from the Milwaukee Railroad. The request was granted subject to nine conditions.

Approved February 23, 1982

RST-81-5: Southern Pacific Transportation Company requested temporary relief from section 213.109 (crossties) on 13 miles of track between Wharton Junction, Texas, and New Gulf, Texas. The request was granted subject to six conditions.

Approved July 29, 1982

RST-80-5: Atchison, Topeka and Santa Fe Railway Company requested an extension of time from the existing waiver on the Rock Island trackage between Atchison, Kansas, and St. Joseph, Missouri. The request was granted subject to the original conditions.

Approved July 30, 1982

H-82-5: Kansas City Southern Railway Company requested temporary relief from the rail defect standard during a specified test period. The waiver was granted subject to eight conditions.

Approved August 12, 1982

RST-81-2: The Batten Kill Railroad Company petitioned for transfer of a waiver previously granted to the Delaware and Hudson Railway Company. The request was granted for temporary relief from sections 213.137 (frogs); 213.109 (crossties), and portion of 213.121 (rail joints). This waiver expired on November 30, 1982.

Approved August 23, 1982

H-82-8: Boston and Maine Corporation requested temporary relief from the Track Safety Standards on seven miles of branch line track to permit testing at train speeds higher than Class 1. The waiver was granted subject to eight conditions and expired on September 17, 1982.

May 14, 1982

RSGM-81-40: Nezperce Railroad Company
RSGM-81-45: Sierra Railroad Company

May 28, 1982

RSGM-80-45: Bangor & Aroostook Railroad

May 31, 1982

RSGM-81-46: Stockton Terminal & Eastern Railroad

June 21, 1982

RSGM-80-86: Long Island Rail Road

September 13, 1982

RSGM-80-32: Pittsburg & Shawmut Railroad Company

November 1, 1982

RSGM-80-22: Indiana & Ohio Railroad

December 10, 1982

RSGM-80-48: Chicago South Shore & South Bend Railroad

December 21, 1982

RSGM-80-1: Union Railroad

RSGM-80-40: Union Pacific Railroad

RSGM-81-36: Richmond, Fredericksburg & Potomac Railroad
Company

APPENDIX D

Technical Reports and Studies

Improved Track Structures

Fatigue Crack Initiation Properties of Rail Steels
Report No. FRA/ORD-82/05

Analysis of the Behavioral Relationships of Railroad Track
Maintenance Spending
Report No. FRA/ORD-82/06

Analysis of Railroad Track Maintenance Expenditures for
Class 1 Railroads: 1962-1977
Report No. FRA/ORD-82/07

User's Guide for a Computerized Track Maintenance Simulation
Cost Methodology
Report No. FRA/ORD-82/08

Investigation of Rail Fastener Performance Requirements
Report No. DOT/FRA/ORD-82/10

Characterization of Relatively Large Track Geometry Variations
Report No. FRA/ORD-82/13

Laboratory Study to Determine the Effects of Tie Pad Stiffness
on the Attenuation of Impact Loads in Concrete Railway Ties
Report No. DOT/FRA/ORD-82/19

Prediction of Rail Buckling: Recommendations for Development
of Test Methods
Report No. FRA/ORD-82/21

Locomotive Track Hazard Detector
Report No. FRA/ORD-82/26

User's Manual for Program Conwheel-Conformal Wheel Rail
Contact Stress Pressures
Report No. FRA/ORD-82/36

Track Research Compendium, 1982
Report No. FRA/ORD-82/42

Proceedings: Facility for Accelerated Service Testing (FAST)
Engineering Conference
Report No. FRA/TTC-82/01

Wear Behavior of Insulated Joints, First FAST Experiment
Report No. FRA/TTC-82/02

Improved Transport of Hazardous Materials

Study of Fire Extinguishment of a Replacement Fluid for
Use in Transformers in Lieu of Askared
Report No. FRA/ORD-82/12

Special Routing of Spent Fuel Shipments
Report No. FRA/ORD-82/27

Vibration Testing of Railroad Tank Car Specimens
Report No. FRA/ORD-82/28

Federal Legislation Affecting the Rail Transportation of
Hazardous Materials and Waste
Report No. FRA/ORD-82/29

Hazardous Materials Tank Car Design Study
Report No. FRA/ORD-82/32

Safety Valve Flow Tests
Report No. FRA/ORD-82/33

Structural Study of Rail Tank Cars
Report No. FRA/ORD-82/34

Monitoring Devices for Railroad Safety
Report No. FRA/ORD-82/46.1

Monitoring Devices for Railroad Safety
Report No. FRA/ORD-82/46.2

Analytical Evaluation of Railroad Safety Data
Report No. FRA/ORD-82/47

Improved Safety - General

Railroad Noise Control: Handbook for the Measurement, Analysis,
and Abatement of Railroad Noise
Report No. DOT/FRA/ORD-82/02H

Railroad Noise Control: Pocket Manual for the Measurement
and Analysis of Railroad Noise
Report No. DOT/FRA/ORD-82/02M

Railroad Electromagnetic Compatibility: Environmental Tests
and Coupling Measurements
Report No. FRA/ORD-82/14

Railroad Electromagnetic Compatibility: Component Susceptibility
Report No. FRA/ORD-82/15

Railroad Electromagnetic Compatibility: Electric Locomotive
Emissions
Report No. FRA/ORD-82/16