AUDIT OF OVERSIGHT OF HIGHWAY-RAIL GRADE CROSSING ACCIDENT REPORTING, INVESTIGATIONS, AND SAFETY REGULATIONS

Federal Railroad Administration

Report Number: MH-2006-016
Date Issued: November 28, 2005

Memorandum

U.S. Department of Transportation
Office of the Secretary
of Transportation
Office of Inspector General

Subject: ACTION: Report on Audit of Oversight of Highway-Rail Grade Crossing Accident Reporting, Investigations, and Safety Regulations
Federal Railroad Administration
Report No. MH-2006-016

Date: November 28, 2005

From: Kurt Hyde
Assistant Inspector General for
Surface and Maritime Programs

Reply to Attn. of: JA-40

To: Joseph H. Boardman
Federal Railroad Administrator

This report presents the results of the Office of Inspector General's (OIG) third audit of the Federal Railroad Administration's (FRA) activities to oversee safety on the nation's highway-rail grade crossings (grade crossings). The report addresses three grade crossing safety issues raised in articles published by *The New York Times* in July 2004.[1] These articles alleged problems with railroad accident reporting, investigations at grade crossings, and several other safety issues. The audit was conducted at the request of Representative James L. Oberstar, Ranking Member of the House Committee on Transportation and Infrastructure; Representative Corrine Brown, Ranking Member of the House Subcommittee on Railroads; and then-Senator Ernest F. Hollings, Ranking Member of the Senate Committee on Commerce, Science and Transportation. Senator Daniel K. Inouye, Ranking Member of the Senate Appropriations Subcommittee on Commerce, Justice, and Science, joined the original requesters of this audit, following Senator Hollings, retirement.

[1] "In Deaths at Rail Crossings, Missing Evidence and Silence," by Walt Bogdanich, *The New York Times*, July 11, 2004. "A Crossing Crash Unreported and a Family Broken by Grief," by Walt Bogdanich, *The New York Times*, July 12, 2004.

The objective of this audit was to assess the adequacy of FRA's oversight of grade crossing (1) accident reporting to the National Response Center (NRC),[2] (2) accident investigations, and (3) enforcement of safety regulations. Trespassing fatalities and injuries on railroad property were not included in this audit.

The focus of this audit differed significantly from the second grade crossing safety report the OIG issued on June 16, 2004.[3] The 2004 report focused on the Department of Transportation's (Department) progress in implementing its 1994 Highway-Rail Grade Crossing Safety Action Plan and identified areas for targeting future improvements. This audit focused on whether FRA has exercised adequate oversight of the extent to which railroads have complied with regulatory requirements to immediately report grade crossing collisions to NRC,[4] investigate collisions, and maintain automated crossing warning signals. A fourth audit report will soon be issued assessing the adequacy of FRA's oversight of grade crossing accident reporting to FRA and control of vegetation at grade crossings.

BACKGROUND

The 11 percent increase in grade crossing fatalities, from 332 in 2003 to 368 in 2004,[5] and continued public interest in further enhancing railroad safety to reduce the number of these fatalities present significant challenges to FRA's oversight and enforcement activities for all railroads. The Class I or major railroad companies[6] accounted for $34 billion, or 92 percent, of total railroad freight revenues in 2003 (latest year for which data were available). As shown in Figure 1, all but six states (Alaska, Hawaii, Maine, New Hampshire, Rhode Island, and Vermont) have at least one of the four largest freight railroads operating in them. In addition, the National Railroad Passenger Corporation (Amtrak) operates in 46 states and the District of Columbia.

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[2] As part of the Department of Homeland Security, NRC is the Federal Government's 24-hour point of contact for environmental discharges anywhere in the United States and its territories. In addition, through agreements containing criteria that serve as triggers for reporting, NRC notifies FRA and other Federal agencies of fatal train accidents and grade crossing collisions.

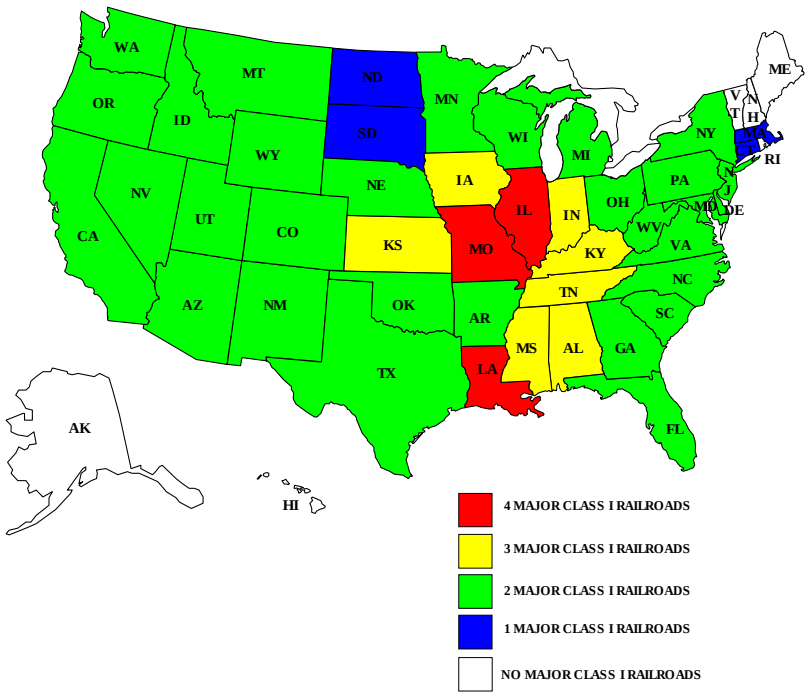
[3] OIG Report No. MH-2004-065, "Audit of the Highway-Rail Grade Crossing Safety Program," June 16, 2004 (second audit). OIG Report No. RT-1999-140, "Rail-Highway Grade Crossing Safety," September 30, 1999 (first audit). OIG reports can be accessed on the web at *www.oig.dot.gov*.

[4] The National Transportation Safety Board has defined "immediate reporting to NRC" by directing the railroads to report fatal grade crossing collisions within 2 hours. FRA's regulations require railroads to immediately report fatal crossing collisions to NRC, but do not specify a time limit for reporting.

[5] Throughout this report, unless otherwise indicated, calendar year data are reported. The grade crossing accident and fatality statistics were obtained from FRA, as of May 31, 2005.

[6] As of 2003, the Surface Transportation Board defined a freight railroad company with annual operating revenues of $277.7 million or more as Class I. Seven freight railroads qualified as Class I—Burlington Northern Santa Fe Railway Company, Canadian National Railway, Canadian Pacific Railway, CSX Transportation, Kansas City Southern Railway Company, Norfolk Southern, and Union Pacific Railroad Company.

Figure 1. Number of the Four Largest Class I Railroads Operating in Each State in 2003



Source: Association of American Railroads

From 1999 through 2003, the total train miles traveled increased from 712 million miles to 744 million miles, or by 4 percent, and the total miles traveled by roadway motor vehicles increased from 2.7 trillion miles to 2.9 trillion miles, or by 7 percent. During the same 5-year period, both collisions and fatalities at the nation's grade crossings decreased by 15 percent and 17 percent, respectively. As we reported in June 2004, this significant decrease was attributable to the Department addressing much of the "low-hanging fruit," that is, working with the states and railroads to close grade crossings, install automatic gates and flashing lights at public crossings with a high probability for collisions, and educate the public about crossing safety. The Department also made progress in implementing safety initiatives included in its 1994 Grade Crossing Safety Action Plan.

Nationwide, there were 243,016 grade crossings in 2004, of which 149,628 or 62 percent were maintained by public transportation authorities (public).[7] Of these public crossings, 63,387 or 42 percent had automatic warning devices.

[7] Typically, public grade crossings are protected by a combination of active warning devices, passive warnings, or both. Active warning devices—automatic gates, flashing lights, highway traffic signals, and other automatic devices—are activated by approaching trains and warn motorists and pedestrians to yield to train traffic. Passive warnings consist of crossbucks, stop signs, advanced warning signs, pavement markings, and other non-train activated warnings (flag-waving railroad or law enforcement personnel) that advise motorists of the presence of a grade crossing.

However, automatic warning devices do not prevent all accidents. Nearly half of the grade crossing collisions that occurred, from 2000 through 2004, were at crossings with active warning devices. As train and highway traffic increase each year, the possibility of collisions at grade crossings poses an increasing threat to the traveling public and presents many challenges for the Federal oversight of railroad safety.

RESULTS IN BRIEF

Over the last 10 years, significant progress has been made in reducing collisions and fatalities at grade crossings. The number of grade crossing collisions fell 39 percent, from 4,979 at the end of 1994 to 3,045 at the end of 2004. During this same period, the number of fatalities decreased from 615 to 368, or by 40 percent. The Department is continuing to focus on improving grade crossing safety and addressing related challenges to railroad safety. In May 2004, at the direction of Congress, the Secretary of Transportation issued a new national grade crossing safety action plan that calls for a comprehensive Department-wide effort to adopt a uniform strategy to further reduce crossing collisions and fatalities. To discourage dangerous behavior by motor vehicle drivers, the Department's new action plan identifies several initiatives, such as vigorously enforcing grade crossing traffic laws.

To its credit, FRA implemented a process in July 2004 to enforce reporting of fatal grade crossing collisions to NRC, began implementation of a National Inspection Plan in April 2005 to strengthen its compliance program, and issued a safety advisory in May 2005 promoting grade crossing safety. FRA also issued three new rules to enhance safety at grade crossings in 2005.[8] The rules require using reflective stickers on railroad cars to increase visibility, strengthening Federal requirements for sounding horns at crossings, and improving the crashworthiness of locomotive event recorders. These are all important actions, but from 2003 to 2004, grade crossing accident statistics increased—collisions rose from 2,963 to 3,045 (or by 3 percent) and the number of fatalities jumped from 332 to 368 (or by 11 percent). These increases and the upward trend in train and highway traffic indicate that more needs to be done to improve grade crossing safety.

We found that greater attention is needed in the areas of reporting and investigating grade crossing collisions, and strengthening enforcement when an FRA inspector cites a railroad for a safety defect. Specifically, railroads failed to immediately notify NRC of 21 percent of reportable grade crossing collisions, as required, most of which involved fatalities or multiple injuries. Although the

[8] FRA Final Rule on Reflectorization of Rail Freight Rolling Stock, January 3, 2005; FRA Final Rule on Use of Locomotive Horns at Highway-Rail Grade Crossings, April 27, 2005; and FRA Final Rule on Locomotive Event Recorders, June 30, 2005.

collisions were subsequently reported to FRA within the required 30 to 60 days after the collision, by then it was too late to promptly decide whether or not to conduct an investigation.

We also found that the Federal Government investigated very few grade crossing collisions—only 9 of the 3,045 collisions that occurred in 2004. Even though railroad accident reports attributed more than 90 percent of grade crossing collisions to motorists, from 2000 through 2004, FRA did not routinely review locomotive event recorder data, police reports, and other sources of information to determine the causes of the collisions or the need for further investigation.

In addition, FRA recommended only 347 violations for the 7,490 critical safety defects it identified for grade crossing signals. Given the 2004 increase in collisions and fatalities, it is apparent that FRA needs to take a proactive oversight approach to further reduce grade crossing accidents by clarifying its reporting requirements, obtaining and analyzing independent accident data, and increasing enforcement of existing safety regulations in the areas that pose the greatest threat to public safety.

In response to continuing congressional interests and concerns about rail safety, in July 2005, the Inspector General testified on the findings discussed in this report at a Hearing on Railroad Grade Crossing Safety Issues before the House Committee on Transportation and Infrastructure, Subcommittee on Railroads. The Inspector General testified on three areas that FRA needs to address as it moves forward with its new action plan. First, we found that railroads failed to report 21 percent of serious crossing collisions to NRC and FRA can do more to enforce this reporting requirement. Second, the Federal Government investigates very few crossing collisions and needs to develop strategies to increase its involvement in investigations. Third, FRA should strengthen its enforcement of grade crossing safety regulations.

Since the July 2005 testimony, our follow-up audit work indicated that FRA had not taken additional necessary actions to correct the problems we identified more than 3 months ago. In the month following this hearing, several high-profile crossing collisions occurred.[9] In August 2005, news reports highlighted three separate grade crossing collisions, involving Amtrak passenger trains and dump trucks that resulted in 2 fatalities and at least 35 injuries. In two of these accidents, the force of the collision caused the train to derail. In one of these collisions, as shown in Figure 2, the driver of the dump truck drove around a lowered automatic gate, which is designed to warn drivers of an approaching train, and into the path of an oncoming Amtrak train. According to news reports, the

[9] Railroad officials reported these three grade crossing collisions to NRC, as required.

resulting collision killed the truck driver and his passenger, injured 14 Amtrak passengers, and derailed the train's locomotive and four of its seven cars.

Figure 2: Amtrak Train Grade Crossing Collision August 2005

Source: FRA / CBS News in Raleigh, NC

Therefore, this report presents our findings, makes formal recommendations to FRA to address the three areas previously identified to improve grade crossing safety, and summarizes FRA's comments on our findings and recommendations. FRA generally concurred with our audit results and four recommendations and agreed to take reasonable corrective actions to address them. However, we are requesting that FRA provide target dates for implementing these corrective actions. Specifically, our audit of FRA's oversight of grade crossing accident reporting to NRC, investigations, and safety regulations, found that:

- ***Railroads failed to report 21 percent of reportable grade crossing collisions to NRC.*** Railroads are required to immediately report crossing collisions involving fatalities and/or multiple injuries to NRC. Immediate reporting allows the Federal Government to decide whether or not to conduct an investigation, shortly after a crossing collision has occurred. Our analysis showed, however, that 115, or 21 percent, of 543 reportable grade crossing collisions that occurred between May 1, 2003[10] and December 31, 2004 were not reported to NRC. Although the 115 unreported crossing collisions, which resulted in 116 fatalities, were reported to FRA within 30 to 60 days after the collision, as required, that was too late to allow Federal authorities to promptly decide whether or not

[10] FRA's Office of Safety issued "FRA Guide for Preparing Accident/Incident Reports," effective May 1, 2003.

to conduct an investigation. In July 2004, FRA began reconciling its database with the NRC to identify grade crossing collisions that had never been reported to NRC. In March 2005, FRA officials began issuing violations to railroads that failed to follow FRA's criteria for reporting grade crossing collisions to NRC. This enforcement effort needs to be sustained to ensure that railroads properly report all grade crossing collisions involving a fatality, serious injury, or substantial property damage.

FRA established ten different criteria for immediately reporting railroad accidents to NRC—some criteria apply to any train accident and others apply only to grade crossing collisions. In our opinion, to avoid confusion over the reporting requirements for railroads, FRA must clarify its requirements for reporting crossing collisions to NRC. To clarify accident reporting, we recommended that FRA require the railroads to report to NRC any grade crossing collision resulting in a fatality at the scene or death within 24 hours of the accident. In its November 2, 2005 written comments to this report, FRA proposed actions to clarify reporting requirements in the Code of Federal Regulations, Title 49, Part 225.9, "Telephonic Reports of Certain Accidents/Incidents and Other Events," by including new criteria that require the railroads to report to NRC any death that occurs within 24 hours of a grade crossing collision.

- ***The Federal Government investigated very few crossing collisions.*** FRA investigated 9 of the 3,045 grade crossing collisions that occurred in 2004. From 2000 through 2004, FRA investigated 47, or 13 percent, of 376 of the most serious[11] crossing collisions that the railroads reported. We found that no Federal investigations were conducted for the remaining 329 most serious crossing collisions, which resulted in 159 fatalities and 1,024 injuries. FRA officials stated that the National Transportation Safety Board (NTSB) is the lead Federal agency responsible for investigating railroad accidents, not FRA. However, NTSB tends to investigate high-profile grade crossing collisions. For example, from 2000 though 2004, NTSB conducted seven grade crossing collision investigations. Consequently, the Federal Government did not independently investigate most crossing collisions, but rather received information concerning the causes of collisions almost exclusively from the railroads.

  The railroads' grade crossing accident reports attributed over 90 percent of the collisions that occurred from 2000 through 2004 to motorists, but FRA

[11] For our analysis of FRA's accident data, we defined the most serious grade crossing collisions as those resulting in a total of three or more fatalities and/or injuries.

did not conduct its own investigations to verify the causes. Independently collecting and analyzing information about grade crossing collisions would substantially improve FRA's ability to determine the causes of grade crossing collisions and better target collisions that should be investigated further. The collection and analysis of this information is especially important given the limited resources of FRA's inspection staff. Nationwide, 55 of about 400 FRA inspectors are assigned to inspect the 63,387 warning signal systems at grade crossings.

To better evaluate the causes of collisions and railroads' compliance with Federal safety regulations, we recommended that FRA use a pilot program to collect and analyze independent information on crossing collisions from railroads and local or state law enforcement agencies. FRA concurred with our recommendation and proposed to implement a 1-year pilot study comprised of one state from each of its eight regions to assess the benefits and costs of analyzing information from independent sources on crossing collisions, such as police reports on a routine basis and locomotive event recorder data on an as needed basis, to resolve conflicts.

- ***FRA recommended few violations for the many critical safety defects[12] it identified.*** FRA Signal and Train Control inspectors inspect grade crossing warning signals for safety defects, both non-critical and critical. Critical defects are those with the most direct safety impact to highway and rail users, such as the failure of a warning signal to activate or the failure of a railroad employee to repair signal malfunctions in a timely manner. From 2000 through 2004, FRA inspectors identified 7,490 critical safety defects out of 69,405 total safety defects related to automated grade crossing warning signals. Yet, FRA recommended only 347 critical defects, or about 5 percent, for violations that carry a fine. In our view, FRA's policy of inspectors using their discretion in deciding whether to recommend a violation has resulted in the small number of critical defects recommended for violations.

  Furthermore, after violations are issued, Federal law allows FRA to compromise the amount of the civil penalty with the railroads, resulting in the collection of lower penalties, despite the many critical safety defects found. Similarly, when railroads fail to comply with existing Federal grade crossing safety regulations, we recommended that FRA increase enforcement by recommending more violations and assessing and collecting civil penalties. FRA generally concurred with this

[12] Defects are instances of noncompliance with Federal railroad safety regulations. For examples of critical safety defects, see Exhibit C.

recommendation and noted that in response to our February 16, 2005 memorandum summarizing past OIG safety-related findings and recommendations, it has already placed great emphasis on focused enforcement of its safety regulations, including those governing grade crossing warning signals. For example, in 2003, FRA collected only $270,950 in penalties from all railroads for grade crossing signal violations. However, in 2005, FRA assessed and collected $298,000 from one railroad for defects relating to a single 2004 collision that resulted in two fatalities, more than the total penalties imposed upon all of the railroads in 2003 for grade crossing signal violations. The higher level of penalty, like that imposed in 2005, can be expected to better focus a railroad's attention on crossing safety.

FINDINGS

Railroads Failed to Report 21 Percent of Reportable Crossing Collisions to NRC and FRA Can Do More to Enforce This Requirement.

Federal regulations require railroads to immediately notify NRC telephonically of certain deaths, injuries, collisions, or other incidents at grade crossings. Immediate reporting allows the Federal Government to decide whether or not to conduct an investigation, shortly after a crossing collision has occurred. We found six large railroads and several smaller ones that failed to notify NRC of reportable grade crossing collisions. From May 1, 2003 through December 31, 2004, 115 of 543, or 21 percent, of reportable grade crossing collisions were not reported to NRC. These unreported collisions involved 116 fatalities.

FRA officials informed us that the underreporting of grade crossing collisions was attributable largely to injured highway users dying after they were transported from the grade crossing collision scene. For example, on October 29, 2003, a Class I railroad did not notify NRC when one of its freight trains collided with a motor vehicle at a public grade crossing in Tennessee. The railroad was not required to report the collision when the seriously injured 18-year old driver was first taken from the scene. However, the driver died shortly after arriving at the hospital, which made the collision reportable to NRC, but the railroad never notified NRC.

FRA officials also stated that railroad employees were confused about which collisions to report to NRC. Their confusion contributed to missed reports. We found the reporting requirements to be complex and potentially confusing as well. FRA identifies ten different reporting categories, many of which contain similar reporting factors (see Table 1). Common factors in the reporting categories are

deaths, serious injuries, and monetary damages. The overlapping of these categories may contribute to confusion and underreporting on the part of the railroads. FRA could address NRC reporting problems by clarifying its criteria and having railroads report to NRC any crossing collision that results in a fatality at the accident scene or death within 24 hours of the accident. In simplifying existing NRC criteria, FRA should review the requirements for railroads to report both grade crossing collisions and other train accidents/incidents.

Table 1: FRA Criteria for Immediate NRC Reporting

FRA criteria require the following accidents/incidents to be reported to NRC immediately:

1. death of a rail passenger or a railroad employee,
2. death of an employee of a contractor to a railroad performing work for the railroad,
3. death or injury of five or more persons,
4. a train accident that results in serious injury to two or more train crew members or passengers requiring their admission to a hospital,
5. a train accident resulting in evacuation of a passenger train,
6. a train accident or incident at a grade crossing resulting in a fatality,
7. a train accident resulting in damage of at least $150,000 to railroad and non-railroad property, or
8. a train accident resulting in damage of $25,000 or more to a passenger train, including railroad and non-railroad property.
9. a train accident or derailment on a main line that is used for scheduled passenger service.
10. a train accident/incident that fouls a main line used for scheduled passenger service.

Source: Code of Federal Regulations, Title 49, Part 225.9, "Telephonic Reports of Certain Accidents/Incidents and Other Events"

When we issued our June 2004 report, FRA had not established a formal mechanism to identify collisions that had not been reported to NRC, as required. However, in July 2004, FRA established a process to verify whether the railroads were reporting grade crossing collisions to the NRC by reconciling NRC's data with reports that railroads submit to a separate FRA database within 30 to 60 days after the occurrence of a grade crossing collision. In March 2005, FRA officials began issuing violations to railroads that failed to follow FRA's criteria for reporting grade crossing collisions to NRC.

The Federal Government Investigated Few Grade Crossing Collisions and Needs to Collect and Analyze Independent Information on All Crossing Collisions.

We found that FRA investigated less than 1 percent of all train accidents and grade crossing collisions, from 2000 through 2004 (see Table 2). During the same time period, it investigated 5 percent of the crossing collisions reported to the NRC. FRA relied heavily on accident reports received from the railroads to evaluate the circumstances, probable causes, and responsible parties for most crossing collisions. The railroads' grade crossing accident reports, however, attributed over 90 percent of the collisions that occurred from 2000 through 2004 to motorists. FRA did not conduct its own investigations to verify the causes or routinely review independent sources of information for these crossing collisions, such as police reports or locomotive event recorder data.

Typically, crossing collisions are promptly investigated only by railroad employees and state or local law enforcement officers, without any Federal officials present. For most of the approximately 3,000 collisions that occur each year, railroad employees are among the first to arrive at the accident scene to investigate these collisions. The railroads are required to submit an accident report to FRA within 30 days after the end of the month in which the crossing collision occurred. For example, if a grade crossing collision occurred on August 1, 2005, the railroad would have until September 30, 2005, to submit the accident report to FRA.

Table 2. Railroad Accident/Incident Investigations 2000-2004

	Total Accidents/Incidents			Grade Crossing Collisions[a]		
		Investigated			Investigated	
Year	Number	Number	Percent	Number	Number	Percent
2000	16,918	89	0.5	3,502	12	0.3
2001	16,087	116	0.7	3,237	18	0.6
2002	14,404	100	0.7	3,077	10	0.3
2003	14,239	112	0.8	2,963	4	0.1
2004	13,939	124	0.9	3,045	9	0.3
Total	**75,587**	**541**	**0.7**	**15,824**	**53**	**0.3**

[a]Grade crossing collisions are a subset of total accidents/incidents.
Source: FRA

State or local law enforcement officers also promptly arrive at the scene of crossing collisions to independently document the circumstances, but their reports are not routinely requested by FRA. With few Federal investigations and with FRA rarely obtaining independent reports from law enforcement officers, FRA has opted to rely primarily on the information in the railroads' accident reports regarding the nature, probable cause, and party responsible for most crossing collisions.

Although both NTSB and FRA have legislative authority to investigate any crossing collision, FRA officials stated that NTSB is the lead Federal agency responsible for investigating accidents. However, NTSB tends to investigate high-profile crossing collisions with multiple fatalities, conducting a total of seven crossing investigations from 2000 through 2004. In March 2000, for example, NTSB led the investigation of a collision between a CSX freight train and a school bus in Tennessee that killed three and injured seven. FRA also participated in this investigation.

With an inspector workforce of approximately 400, of which 55 are assigned to inspect signal and train control devices, FRA has a limited capacity to investigate the approximate 3,000 crossing collisions that occur each year. In addition to investigating crossing collisions, FRA inspectors oversee railroad compliance with Federal regulations by conducting regular inspections of railroad property, such as equipment, tracks, and signals or investigate accidents, complaints, and signal failures. Given FRA's limited resources and other duties, its inspectors normally investigate only those crossing collisions that involve (1) the malfunction of automated warning devices; (2) a commercial vehicle or school bus with one or more fatalities and/or several serious injuries; or (3) the death of three or more highway users. However, on May 2, 2005, FRA issued a safety advisory to facilitate improved cooperation in the investigation of collisions at grade crossings.[13] The advisory described the roles of the Federal and state governments and of the railroads in grade crossing safety. FRA reminded railroads of their responsibilities and offered assistance to local authorities in the investigation of grade crossing collisions where information or expertise within FRA's control is required to complete the investigation.

Collecting and analyzing independent information about grade crossing collisions would be especially important to FRA as a means to substantially improve its ability to determine the causes and better target collisions that require further investigation. While we found that FRA investigated most of the grade crossing collisions that met its criteria, FRA's criteria required the investigation of very few crossing collisions. As reported previously, the fact that NRC was not notified of

[13] FRA Safety Advisory 2005-03; "Highway-Rail Grade Crossing Safety, May 2, 2005."

21 percent of all reportable crossing collisions from May 1, 2003 through December 31, 2004, further limited the number of investigations that FRA conducted.

From 2000 through 2004, FRA investigated 47 of 376, or 13 percent, of the most serious crossing collisions that occurred—those resulting in three or more fatalities and/or severe injuries. We found that no Federal investigations were conducted for the remaining 329 of these crossing collisions. Those collisions resulted in 159 fatalities and 1,024 injuries. In contrast, the Federal Aviation Administration (FAA) conducted on-site investigations of 1,382, or 93 percent, of the 1,484 general aviation accidents that FAA had responsibility for investigating in 2004. The 1,706 total general aviation accidents that occurred in 2004 resulted in 556 fatalities. However, it is important to note that FAA has an Office of Accident Investigations staffed with 8 full-time investigators whose mission is to detect unsafe conditions and trends and to coordinate the process for corrective actions. In addition, FAA uses personnel from other disciplines to conduct investigations, including 2,989 inspectors from its Office of Aviation Safety.

FRA Recommended Few Violations for the Many Critical Safety Defects It Identified and Should Increase Its Enforcement of Existing Safety Regulations.

FRA made limited use of its regulatory enforcement authority in assessing civil penalties to encourage compliance with Federal safety regulations by railroads that failed to properly inspect and maintain grade crossings. Active highway warning signals at grade crossings play a critical role in protecting the lives of motorists and railroad employees. Our analysis of inspection data from 2000 through 2004 on grade crossing signals found that about 5 percent of critical defects were recommended for violations, which carry civil penalties.

During the same time period, FRA inspectors identified 2,692 critical defects where railroad employees failed to repair grade crossing warning systems "without undue delay," but recommended only 67, or about 2.5 percent, for violations. Just such a failure resulted in the death of an elderly couple in a collision at a crossing in Henrietta, New York, on February 3, 2004. Seven days earlier, on January 27, 2004, railroad employees disabled the crossing's warning signal system because of false warning activations. The day after the fatal crash, FRA cited the railroad for not promptly repairing the system, but did not recommend a violation. The following day, FRA recommended that the railroad be penalized for failing to stop its train at the crossing and to flag the traffic. On February 9, 2004, FRA recommended one more penalty for failing to repair without undue delay. This case received a great deal of public scrutiny and was aggressively pursued by the New York State Attorney General. FRA recently

reported that it had assessed and collected $298,000 in penalties against this railroad for the collision in Henrietta.

In general, FRA has not taken strong enforcement actions when critical safety defects were identified. Critical defects are those with the most direct safety impact to highway and rail users, such as the failure of a warning signal to activate or the failure of a railroad employee to repair signal malfunctions in a timely manner. Our analysis of inspection data from 2000 through 2004 on railroad grade crossing signals found that FRA inspectors identified 7,490 critical safety defects, but recommended only 347, or about 5 percent, for civil penalties (see Table 3). In contrast, the Federal Motor Carrier Safety Administration (FMCSA) takes a much more aggressive approach to enforce Federal safety regulations. From Fiscal Years 2000 through 2004, FMCSA found 76,400 acute and critical violations of the safety regulations and recommended 30,109, or about 40 percent, for civil penalties.

Table 3: Critical Grade Crossing Safety Defects[a] 2000-2004

Critical Safety Regulations (See Exhibit C)	Number of Defects Found	Number of Violations Recommended	Percent of Violations Recommended for Defects Found
Employee notification rules	10	0	0
Timely response to report of malfunction	88	12	14
Activation failure	74	17	23
Partial activation	9	0	0
False activation	114	25	22
Recordkeeping	618	12	2
Adjustment, repair, or replacement of component	4,680	91	2
Interference with normal functioning of system	547	160	29
Standby power system	552	10	2
Activation of warning system	164	15	9
Standby power testing	634	5	1
Total	**7,490**	**347**	**5**

[a]Code of Federal Regulations, Title 49, Part 234, "Grade Crossing Signal System Safety"
Source: FRA

FRA inspectors have been encouraged to use their discretion when deciding whether to recommend a defect for violation. In our view, this policy has resulted in a small number of critical defects being recommended for violations. Furthermore, after violations are issued, Federal law allows FRA to compromise the amount of the civil penalty with the railroads, resulting in the collection of lower penalties. In total, FRA collected only $270,950 in fines, as shown in Table 4, from railroads in 2003 for grade crossing signal violations.

Table 4: Collected Civil Penalties for Grade Crossing Signal Violations 2000-2003

Year	Class I Railroads	Other Railroads	Total
2000	$52,850	$8,800	$61,650
2001	$142,550	$97,450	$240,000
2002	$96,450	$59,650	$156,100
2003	$173,350	$97,600	$270,950
Total	**$465,200**	**$263,500**	**$728,700**

Source: FRA

FRA needs to consider whether the small number of violations recommended for civil penalties and the low amount of fines collected sufficiently encourage railroads to better comply with Federal safety regulations. FRA should emphasize compliance by strengthening enforcement through issuing more violations and assessing and collecting civil penalties when critical safety defects are discovered. We note that following the Secretary of Transportation's announcement of the Department's new Grade Crossing Safety Action Plan in May 2004, FRA assessed one railroad $298,000 for grade crossing signal violations related to the 2004 collision in Henrietta, New York, as discussed previously. Larger than the total fines imposed upon all of the railroads in 2003 for grade crossing signal violations, the level of penalty imposed in 2005 can be expected to focus a railroad's attention on crossing safety. Similarly, increased enforcement including civil penalties can be expected to encourage railroads to better comply with Federal safety regulations before grade crossing collisions occur, especially critical safety defects.

RECOMMENDATIONS

To further improve safety at the nation's grade crossings, we recommend that FRA:

1. Clarify accident reporting to NRC by requiring the railroads to report any grade crossing collision resulting in a fatality at the scene or death within 24 hours of the accident.

2. Maintain its new monthly oversight practice of reconciling grade crossing accident reports submitted to its database with those reported to NRC and rigorously recommend violations and assess and collect civil penalties, when railroads have failed to report to NRC.

3. Collect and analyze independent information on crossing collisions (including event recorder data and accident reports) from railroads and local or state law enforcement agencies, using a pilot program. The pilot should be conducted in the states that have the most grade crossing accidents year after year and designed to collect information that will allow FRA to evaluate the cause of collisions, type of warnings in place, and railroads' compliance with Federal safety regulations for each crossing fatality.

4. Increase enforcement of existing Federal grade crossing safety regulations when railroads fail to comply, especially with those involving critical defects, by recommending more violations and assessing and collecting civil penalties.

AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

A draft of this report, dated September 26, 2005, was provided to the Office of the Secretary, FRA, and the Federal Highway Administration (FHWA). In its November 2, 2005 written comments, FRA generally concurred with our audit results, concurred with three of four recommendations, generally concurred with the fourth recommendation, and agreed to take reasonable corrective actions on all four. FRA's complete comments on the recommendations and other general comments on the entire report are presented in the Appendix to this final report. FHWA had no comments.

Recommendation 1. FRA concurred with our recommendation to clarify accident reporting to NRC by requiring the railroads to report any grade crossing collision resulting in a fatality at the scene or death within 24 hours of the accident. It plans to clarify reporting requirements in the Code of Federal Regulations, Title 49, Part 225.9, "Telephonic Reports of Certain Accidents/Incidents and Other Events," by including new criteria that require the railroads to report to NRC any death that occurs within 24 hours of a grade crossing collision. FRA also plans to coordinate the new reporting criteria with NTSB before issuing the proposed rule clarification.

We consider FRA's proposed actions reasonable. However, FRA did not provide a date for completing its actions. Therefore, we request that FRA provide a specific timetable for completing these actions and implementing this recommendation.

Recommendation 2. FRA concurred with our recommendation to maintain its new monthly oversight practice of reconciling grade crossing accident reports submitted to its database with those reported to NRC and rigorously recommend violations and assess and collect civil penalties, when railroads have failed to report to NRC. FRA has advised us that it plans to continue reconciling grade crossing accident reports with NRC reports and has begun citing civil penalties for railroads that have clearly violated the NRC telephonic reporting requirement.

We consider FRA's proposed actions responsive to this recommendation.

Recommendation 3. FRA concurred with our recommendation to collect and analyze independent information on crossing collisions from railroads and local or state law enforcement agencies, using a pilot program. However, it proposes to implement the program with some modifications. As we recommended, FRA plans to implement a 1-year pilot study involving a sample of states for which

police reports are readily available, specifically one state from each of FRA's eight regions. When police reports are not readily available, FRA may need to request a copy from the railroads, which typically obtain them during their investigations.

We also recommended that FRA conduct its pilot study in the states that have the most grade crossing accidents year after year. To which FRA responded, "As suggested, FRA will endeavor to select States with relatively high accident/incident counts." We expect that FRA's endeavors will result in a pilot study that includes a sample of states with the most crossing collisions.

As part of the pilot study, FRA also plans to compare the information in police reports with the accident reports that railroads submit to its national database. After the 12-month pilot study ends, FRA plans to determine the feasibility of extending the pilot study to other states. Further, FRA does not concur with the part of this recommendation that calls for routinely obtaining event recorder data for the collisions reviewed under its pilot study. Instead, FRA plans to review available event recorder data when there appears to be a conflict between the police report and the railroad's report of a grade crossing collision.

We consider the actions proposed by FRA to implement this recommendation reasonable. However, we request that FRA provide a specific schedule for starting the pilot study, methodology for selecting the states to be studied and analyzing the results, and target date for reporting on the feasibility of extending the pilot to other states.

Recommendation 4. FRA generally concurred with our recommendation to increase enforcement of existing Federal grade crossing safety regulations when railroads fail to comply, especially with those involving critical defects, by recommending more violations and assessing and collecting civil penalties. FRA stated that it has already placed great emphasis on focused enforcement of its safety regulations in response to our February 16, 2005 memorandum. Further, FRA stated that it is putting control systems in place to ensure good use of existing data, whether reported by the railroads or gathered through the inspection process.

We consider FRA's proposed actions responsive to this recommendation.

Overall, we are pleased with FRA's response to our four recommendations and expect that the necessary actions will be taken to implement each of them. During the next year or so, time will tell whether FRA's proposed actions have addressed the findings and recommendations presented in this report.

ACTIONS REQUIRED

FRA's proposed actions to address our recommendations to maintain its monthly oversight practice of reconciling grade crossing accident reports submitted to its national database with those submitted to NRC (recommendation 2) and to increase enforcement of existing Federal crossing safety regulations (recommendation 4) are responsive. However, we are requesting that FRA provide a ***target completion date*** for clarifying accident reporting by requiring the railroads to report to NRC any grade crossing collision resulting in a fatality at the scene or death within 24 hours of the accident (recommendation 1). Further, we are requesting that FRA provide a ***schedule*** for implementing its 1-year pilot study (recommendation 3), ***including a definite start date, methodology for selecting the states to be studied and analyzing the results, and target date for reporting on the feasibility of extending the pilot to other states.*** In accordance with Department of Transportation Order 8000.1C, we request that FRA provide a written response within 15 calendar days of this final report for these two recommendations.

We appreciate the courtesies and cooperation of FRA and other Department representatives during this audit. If you have any questions concerning this report, please call me at (202) 366-2017 or Brenda R. James, Program Director, at (202) 366-0202.

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EXHIBIT A. OBJECTIVE, SCOPE, METHODOLOGY, AND PRIOR AUDIT COVERAGE

To accomplish the audit's objective to assess FRA's oversight of highway-rail grade crossing accident reporting, investigations, and safety regulations, we reviewed and compared laws, regulations, policies, procedures, guidance, and other relevant information to understand Federal and state requirements for grade crossing safety. We conducted audit work at FRA Headquarters and Federal Highway Administration (FHWA). We contacted all FRA regional offices and visited FHWA division offices in Georgia and Texas. We interviewed representatives of the National Transportation Safety Board (NTSB), National Response Center (NRC), American Association of State Highway and Transportation Officials (AASHTO), the four largest railroads, railroad employee unions, industry trade groups, and safety advocates (see Exhibit B) to obtain their views about the Federal oversight of grade crossings. We also discussed their roles and responsibilities, requirements, processes, and training programs for further improving grade crossing safety. We used this information to identify program weaknesses and assess compliance with existing Federal laws, regulations, and other requirements.

Our audit work focused on the Nation's four largest Class I railroads—Burlington Northern Santa Fe Railway (BNSF), CSX Transportation (CSX), Norfolk Southern Corporation (NS), and Union Pacific (UP). These railroads accounted for 59 percent of all public grade crossings, 65 percent of all public grade crossing accidents, and 76 percent of all train miles traveled in 2003. We visited BNSF Headquarters in Fort Worth, Texas; NS Headquarters in Norfolk, Virginia; UP Headquarters in Omaha, Nebraska; and CSX Headquarters in Jacksonville, Florida. We discussed their processes and procedures for inspecting grade crossing warning systems, reporting crossing collisions, and conducting investigations of crossing collisions.

To assess the adequacy of FRA's oversight grade crossing accident reporting, we reviewed and analyzed Federal and state laws, regulations, policies, and guidance to determine whether the railroads were complying with existing reporting requirements. We also analyzed FRA databases to determine whether the information contained in these databases was accurate, complete, timely, and in compliance with regulations. We analyzed FRA's data on public and private grade crossing accidents that occurred from 2000 through 2004 to identify trends. For the period covering May 1, 2003 through December 31, 2004, we compared FRA's national accident database with NRC accident reports to determine whether collisions were reported to one database but not reported to the other.

To assess the adequacy of FRA's oversight of grade crossing accident investigations, we obtained and analyzed the investigative reports for the period covering 2000 through 2004. We identified the number of crossing collisions investigated by FRA and NTSB and determined whether the causes of the accidents were consistent with the information the railroads reported to FRA. We analyzed FRA's database to determine whether all the grade crossing collisions meeting FRA's investigation criteria were investigated. We also identified the processes the four largest Class I railroads used to investigate grade crossing collisions and preserve evidence after collisions occur.

To assess the adequacy of FRA's oversight of grade crossing safety regulations, we reviewed the Code of Federal Regulations, Title 49, Part 234, "Grade Crossing Signal System Safety", which contains minimum maintenance, inspection, and testing standards for grade crossing warning signal systems (see Exhibit C). We interviewed officials at FRA's Office of Chief Counsel to identify the amount of civil penalties assessed and collected for violating these safety regulations. We also reviewed and analyzed data on FRA crossing inspections conducted from 2000 through 2004 to determine the frequency of critical grade crossing defects, such as the failure of active warning signals.

We conducted this performance audit from September 2004 through July 2005, in accordance with Government Auditing Standards prescribed by the Comptroller General of the United States.

Prior Audit Coverage

OIG Report Number RT-1999-140, "Rail-Highway Grade Crossing Safety," September 30, 1999, disclosed that the Department's efforts had reduced the number and the rate of grade crossing accidents and fatalities during the first half of the 1994 Action Plan. However, to make further progress, the OIG recommended that FRA focus on proven cost-effective strategies, improve the program's accident and inventory data, and better monitor state spending of Federal funds.

On June 16, 2004, the OIG issued a follow-up Report Number MH-2004-065 "Highway-Rail Grade Crossing Safety Program." The OIG reported that the Department came close to meeting its 1994 Action Plan goal of fewer than 2,500 grade crossing accidents and 300 fatalities at the end of 2003. Much of this progress was largely attributable to addressing the "low-hanging fruit." To achieve further improvements; the OIG recommended that the Department should adopt a targeted approach that focuses on states and public crossings that continued to have the most accidents.

EXHIBIT B. ACTIVITIES VISITED OR CONTACTED

Federal Railroad Administration

Office of the Associate Administrator for Safety

FRA Regional Offices

California	Georgia	Illinois	Massachusetts
Missouri	Pennsylvania	Texas	Washington

Federal Highway Administration

Office of Highway Safety
Federal Highway Division Offices
- Georgia
- Texas

State Agencies

Department of Transportation
- Florida
- Georgia
- Illinois
- Iowa
- Texas

Railroad Commission of Texas

Railroads

Burlington Northern and Santa Fe Railway Company
CSX Transportation
Norfolk Southern Corporation
Union Pacific Railroad Company

Other Organizations Contacted

American Association of State Highway and Transportation Officials
Angels on Track Foundation
Association of American Railroads
Brotherhood of Railroad Signalmen
Brotherhood of Locomotive Engineers and Trainmen
Brotherhood of Maintenance of Way Employees
National Response Center
National Transportation Safety Board
Transport Workers Union of America
Transportation Communication Union

EXHIBIT C. CODE OF FEDERAL REGULATIONS, TITLE 49, PART 234, "GRADE CROSSING SIGNAL SYSTEM SAFETY" CRITICAL SECTIONS (BRIEF DISCRIPTION)

§ 234.101 Employee notification rules.
This section requires that each railroad issue rules requiring that its employees report malfunctions of highway-rail grade crossing warning systems to a designated railroad employee or employees, and that such reports shall be made by the quickest means of communications available.

§ 234.103 Timely response to report of malfunction.
This section requires that once a credible report of a malfunction of a highway-rail grade crossing warning system has been received, the railroad having maintenance responsibility for the warning system shall promptly investigate the report. Further, if such malfunction is found to be caused by a faulty component, such component shall be adjusted, repaired, or replaced without undue delay, as required by Section 234.207.

§ 234.105 Activation failure.
This section requires that a railroad having maintenance responsibility for a warning system take prompt action to provide alternative means of warning highway users and railroad employees at a specific crossing where a credible report of a system malfunction involving an activation failure has been received. This section further requires specific actions to be followed to provide that alternative warning.

When the alternative warning consists of at least one uniformed law enforcement officer, one uniformed railroad police officer, or an appropriately equipped flagger for each direction of highway traffic at the crossing, trains may proceed over the crossing at normal speed. If an appropriately equipped flagger provides the alternative means of warning but there is less than one flagger for each direction of highway traffic available at the crossing, trains must not exceed 15 mph until the locomotive has passed over the crossing. If there is no appropriately equipped flagger, uniformed law enforcement officer, or uniformed railroad police officer to provide alternative warning, each train must stop and a member of the train crew must dismount the locomotive and flag highway traffic to a stop before the train occupies the crossing. This section also requires that the locomotive audible warning device be activated in accordance with railroad rules when approaching a crossing where an activation failure has occurred.

§ 234.106 Partial activation.
This section requires that when a railroad receives a credible report of a system malfunction involving a partial activation, it is required to take prompt action to notify train crews and other railroads operating over such crossing prior to the next train operation over the crossing. Further, the railroad is also required to notify the law enforcement agency having jurisdiction over such crossing, or the railroad police who are capable of responding to control vehicular traffic at the crossing. Finally, the railroad must take action to assure that its employees or a law enforcement agency provide the required alternative means of warning for highway users at the crossing.

§ 234.107 False activation.
This section requires that a railroad having maintenance responsibility for a warning system take prompt action to provide alternative means of warning highway users and railroad employees at a specific crossing where a credible report of a system malfunction involving a false activation has been received.

When a railroad receives a credible report of a system malfunction involving a false activation, it is required to take prompt action to notify train crews and other railroads operating over such crossing prior to the next train operation over the crossing. Further, the railroad is also required to notify the law enforcement agency having jurisdiction over such crossing, or the railroad police who are capable of responding to control vehicular traffic at the crossing. Finally, the railroad must take action to assure that its employees or a law enforcement agency provide the required alternative means of warning for highway users at the crossing

§ 234.109 Recordkeeping.
This section requires the railroad to keep a record of each credible report of a warning system malfunction. This section specifies the information that is to be recorded, and that each record shall remain on file and available for inspection by the FRA for a period of at least one year from the date of the last railroad activity in connection with such report. Such records may be kept on a form provided by the railroad or electronically. Each record shall contain the following information: (1) Location of crossing (by highway name and DOT/AAR crossing inventory number); (2) Time and date that the railroad received the report; (3) Action taken by railroad to comply with section 234.105, 234.106, or 234.107; (4) Time and date of action taken to make final repair or correction. If the system is dismantled and removed instead of repaired, the date of removal should be recorded.

Each record of a credible report of a warning system malfunction shall be kept and made available for inspection by the FRA for one year from the last date of action taken on each report. Thus, if the warning system is repaired and put back in

service, the record shall be kept for one year from the date of the last repair to reactivate the system. If the system is dismantled and removed, the record shall be kept for one year from the date of the removal.

§ 234.207 Adjustment, repair, or replacement of component.

This section requires a railroad to determine the cause of an active highway-rail grade crossing warning system failure, malfunction, or defective condition affecting the proper operation and/or ability of the system to warn highway users of an approaching train; and perform necessary adjustment, repair, or replacement without undue delay. Until such corrective action is completed, the railroad shall take, when necessary, the appropriate actions as described in sections 234.105, 234.106, or 234.107.

A railroad is required to take action to determine the cause of each failure, malfunction, or defective condition and complete necessary adjustment, repair, or replacement without undue delay. Because of the great variety of factors involved with failure, malfunction, or defective conditions of warning systems, including the location of the crossing, frequency of train movements, type of corrective action needed, availability of personnel, and other competing emergency situations; it is not practical to establish specific time limits for remedial actions. FRA continues to believe that the requirements of this section, taken together with the alternative protective measures required under Sections 234.105, 234.106, and 234.107, will provide the needed measure of safety. Therefore, "without undue delay" shall mean in as timely a manner as possible.

However, because temporary measures involve heightened risk to persons manually controlling motor vehicle traffic and other risks (e.g. miscommunication between flaggers at multiple-track crossings), it is important that grade crossing warning systems be restored to proper functioning. The urgency associated with this need is a product of rail traffic, motor vehicle traffic, the configuration of the crossing, and other factors. FRA will expect railroads to restore warning systems to proper functioning without delay that is undue in relation to these safety considerations and, in general, as soon as possible.

§ 234.209 Interference with normal functioning of system.

This section requires the railroad to provide for the safety of highway users and/or train traffic before interfering, in testing or otherwise, with the normal functioning of any highway-rail grade crossing warning system. The intent of this section is to ensure that railroads maintain the integrity of crossing warning systems by prohibiting procedures or practices which defeat or nullify the normal functioning of such systems.

Interference is any condition that circumvents, hinders, impeded, or diminishes whatsoever the intended warning of a system, and may be accomplished by testing, installing, repairing, replacing, operating, or manipulating a warning system component used in detecting the presence of or displaying warning of a train, or in indicating the operation of the warning system. There is no difference between accidental or intentional interference with respect to the enforcement of this section. Test of crossing warning systems must not be conducted until it has been ascertained provisions have been made for the safety of highway users and no train movements will be affected.

§ 234.215 Standby power system.

This section requires railroads to provide a standby power source to operate the warning system for a reasonable length of time during a period of primary power interruption.

§ 234.225 Activation of warning system.

This section requires that each highway-rail grade crossing warning system be maintained to activate in accordance with the design of the warning system, but in no event shall it provide less than 20 seconds warning time for the normal operation of through train movements before the crossing is occupied by rail traffic.

§ 234.251 Standby power testing.

This section requires that standby power be tested at least each month to determine its capability to operate the warning system in instances of primary power interruption.

EXHIBIT D. MAJOR CONTRIBUTORS TO THIS REPORT

The following individuals contributed to this report.

Name	Title
Kurt Hyde	Assistant Inspector General for Surface and Maritime Programs
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Scott Williams	Analyst
Clayton Boyce	Strategic Communications Consultant
Harriet Lambert	Writer-Editor

APPENDIX. FRA MANAGEMENT COMMENTS

Memorandum

U.S. Department
of Transportation

**Federal Railroad
Administration**

Date: NOV 2 2005

Reply to Attn of: Grady Cothen

Subject: Response to Draft Audit Report on Audit of Oversight;
Highway-Rail Grade Crossing Safety

From: Joseph H. Boardman
Administrator

To: Todd J. Zinser
Deputy Inspector General

Thank you for the opportunity to comment on the draft report and for the effort expended by your staff in developing the findings and recommendations. We think that our work together related to this audit has already yielded improvements in the implementation of grade crossing safety program elements, and we look forward to taking the additional steps that you have identified.

We generally concur with the findings and recommendations of the report. Attached are our detailed responses to each recommendation and clarifying comments on the report itself.

Attachments

Attachment 1

The Federal Railroad's Administration's (FRA's) response to the recommendations are interlineated below:

RECOMMENDATIONS

1. **Clarify accident reporting to NRC by requiring the railroads to report any grade crossing collision resulting in a fatality at the scene or a death within 24 hours of the accident.**

Response: The FRA concurs with this recommendation. Currently, the major problem in management of this issue is that there may be a requirement to make an NRC call upon the death of an injured person that occurs days or weeks after the collision. This is not useful to FRA or the National Transportation Safety Board (NTSB), since early notification is the objective. Physical evidence and non-regulated data sources can be rapidly lost, and witnesses often become unavailable, if an investigation is not launched immediately following the event. As recommended, in forthcoming proposed revisions to Part 225, FRA will propose to extinguish the requirement to call the NRC if no death has occurred upon the expiration of 24 hours from the time of the accident/incident. This should establish a "bright line" making management of this issue much more satisfactory for the railroads as well as FRA. (FRA will coordinate with the NTSB on this issue of clarification prior to issuing a proposed rule, since FRA has attempted to maintain telephonic reporting requirements that are aligned with those issued by NTSB.)

2. **Maintain its new monthly oversight practice of reconciling grade crossing accident reports submitted to its database with those reported to NRC and rigorously recommend violations and assess and collect civil penalties, when railroads have failed to report to NRC.**

Response: The FRA concurs with this recommendation.

3. **Collect and analyze independent information on crossing collisions (including event recorder data and accident reports) from railroads and local or state law enforcement agencies, using a pilot program. The pilot should be conducted in the states that have the most grade crossing accidents year after year and designed to collect information that will allow FRA to evaluate the cause of collisions, type of warnings in place,**

and railroads' compliance with Federal safety regulations for each fatality resulting from a grade crossing collision.

Response: The FRA concurs with this recommendation and, in order to carry out the recommendation in the most efficient manner, will proceed as follows:

Pilot study

The FRA will implement a pilot study to verify railroad reports, in consultation with State Participation program managers, as follows:

- FRA's Office of Safety will commence a pilot study involving a sample of States for which police reports are readily available, including one State from each of FRA's eight regions. As suggested, FRA will endeavor to select States with relatively high accident/incident counts.
- Police reports will be compared with form 6180.57s (Highway-Rail Grade Crossing Accident/Incident Reports submitted under 49 CFR Part 225). Issues potentially bearing on responsibility for the accident will be examined with the objective of reconciliation, wherever reasonably possible.
- Upon the expiration of the 12-month pilot study, FRA will determine if its marginal utility has justified its expense.[14] If it is found worthwhile, FRA will determine the feasibility of extending the program to the remaining States.
- FRA will also work with participating States that have inspectors investigate every crossing fatal crossing collision to see how their independent investigation compares to what was reported on the 6180.57. It is our understanding that Illinois and California follow this practice.

Use of event recorder data

The FRA agrees that locomotive event recorder data is a good source of information to verify certain elements of railroad performance in the context of crossing collisions. FRA will continue to evaluate event recorder data in the crossing accidents it investigates and will, if requested by state or local authorities after a particular incident, facilitate access to and analysis of that information. As referenced in the report, FRA's Safety Advisory of May 2, 2005, invites local authorities to contact us whenever this information is required. This advisory has since been distributed at the National Sheriff's Association annual conference

[14] FRA notes that the OIG audit included a preliminary attempt to compare police reports with accident/incident reports filed with FRA. Audit staff reported some difficulty in obtaining reports. OIG has not apprised FRA of any cases indicating significant conflicts in data in the two reports that could reflect adversely on the veracity of accident/incident reports.

(week of June 27), the Fraternal Order of Police annual conference (week of August 1), the Governors' Highway Safety Association annual conference (week of August 29), and the International Association of Chiefs of Police annual conference (week of September 26). We have also encouraged the State Safety Participation Program Managers, at their regular meeting on September 13, 2005, to participate in this outreach effort and to bring to us any issues they encounter with respect to the accuracy of the railroads' reports. FRA will continue to pursue appropriate means of placing this advisory in the hands of State and local law enforcement agencies.

We have also taken steps to ensure that event recorder data is available when needed. On June 30, 2005, FRA revised the Locomotive Event Recorder regulation, inter alia, to (1) capture additional data elements, including train horn and auxiliary light functions, effective with locomotives ordered after October 1, 2006; and (2) require retention of data from all locomotive-borne recording devices for one year (rather than 30 days), following a reportable accident/incident.

With this foundation, our pilot study will include a review of available event recorder information whenever there appears to be a conflict between the police report and the railroad's report on an issue that might be resolved by event recorder data. (As information, it is not feasible to utilize event recorder data to verify accident/incident reports without assembling other information, effectively requiring a field investigation in most cases. Information concerning timetable restrictions, temporary speed restrictions, wheel diameter (where wheel tachometers are used to determine speed), and other factors are required to determine train crew performance. It will be necessary to develop this information where comparison of the police report and railroad's report indicates a material conflict that event recorder data can help resolve).

Video recording technology

The OIG is aware that video recording technology is being deployed by major railroads to capture unusual events along the right-of-way, including highway-rail crossing collisions. FRA regulations now require that this data, where available, be retained for one year following the event; and for litigation reasons railroads are likely to retain the information much longer. FRA's Office of Research and Development is supporting analysis of data from these applications. As the 2004 Secretary's Action Plan for Highway-Rail Crossing Safety (at p. 6) notes:

Focused research can open the window to new solutions. For example, the FRA is supporting the Norfolk Southern Railway and the North Carolina Department of Transportation in their cooperative effort to gather data using a locomotive camera system, known as Rail View. This system will gather video and telemetric on-track data, provide insight into rail-highway at-grade crossing crashes and trespasser incidents, and validate at-grade crossing-safety treatments.

The Office of Safety will monitor the progress of this effort and determine whether the findings support a broader, operational program to capture and analyze video data, comparing it with data reported by the railroads. Such a program could involve capture of locomotive event recorder data for further analysis in the case of specific events.

4. **Increase enforcement of existing Federal grade crossing safety regulations when railroads fail to comply, especially with those involving critical defects, by recommending more violations and assessing and collecting civil penalties.**

Response: The FRA generally concurs with this recommendation and notes that, in response to the OIG report dated February 16, 2005, FRA has already placed great emphasis on focused enforcement of its safety regulations, including 49 CFR Part 234. Further, FRA is putting control systems in place to ensure good use of existing data, whether reported by the railroads or gathered through the inspection process. FRA believes that the results of this effort will be even more aggressive and substantial enforcement activity. As always, of course, FRA will avoid use of quotas or inflexible mandates that could lead to injustice and loss of confidence in the fairness of our compliance efforts.

Attachment 2

Specific Comments:

Page 9:

The draft report states that "...after violations are issued, Federal law allows FRA to compromise the amount of the civil penalty with the railroads, resulting in the collection of lower penalties." It is not clear what the purpose of this statement is, but FRA is concerned that it may be read to imply lack of vigilance.

The policy of the Federal Claims Collection Act and the Federal railroad safety statutes is that FRA *should* attempt to achieve compromise of initial penalty demands based on criteria set out in those laws. The results are intended to be a much more swift resolution of the claims than litigation for the initial demand could possibly produce and a resolution that takes into account the multitude of factors that may apply to any specific allegation of a violation. FRA annually collects millions of dollars of penalties, at very high average percentages of the initial penalty demand, by carefully following the statutory guidance. The alternative is to take thousands of claims (under Part 234 and other safety regulations) to Federal Court, where judges would be able to determine what they are worth after the expenditure of Federal legal and judicial resources that in many cases would exceed the original demand amount. It is certain that neither the Department of Justice nor the courts would welcome such a flood of litigation, which would be contrary to Congress's express purpose in encouraging compromise. It should be noted that in distinct and warranted cases FRA has required payment of the full amount assessed.

Page 15, Table 3, and accompanying text:

The report provides a table that details critical defects taken by FRA inspectors under 49 CFR Part 234, which governs the inspection, testing and maintenance of automated warning devices at highway-rail crossings. The report expresses concern that only a minority of critical defects are taken for violation. Although there are a variety of legitimate reasons that could influence an inspector not to write a violation for one of these defects (see criteria set forth at 49 CFR Part 209, Appendix A), FRA in general agrees that more aggressive use of civil penalty sanctions should be pursued.

However, FRA is concerned that data in the table may be misleading to the public regarding the safety of warning systems. Specifically, dominating the listing of critical defects are the 4,680 defects arising under section 234.209, which requires that, "[w]hen any essential component of a highway-rail grade crossing warning

system fails to perform its intended function, the cause shall be determined and faulty component adjusted, repaired, or replaced, without undue delay." Violations of this provision may involve considerable risk to the public, and we agree that this is a critical rule.

After review of the data and discussion with FRA personnel, however, FRA has concluded that the circumstances associated with a majority of the 4,680 defects under section 234.209 were, in fact, less serious conditions that should have been cited under different, more specific, defect codes. The practice of misusing this defect code apparently arose out of habits formed in administration of 49 CFR Part 236, which for many decades prior to adoption of Part 234 has employed similar language in section 236.11. Section 236.11 has often been used as a "catch all" for items not otherwise called out by Part 236 provisions. The problem of misapplication of this defect code under Part 234 is largely isolated to two FRA regions, and FRA has been working to address it. Although FRA recognizes that this is a quality control problem that needs to be addressed, and we regret the confusion presented to OIG personnel analyzing the data, FRA believes that the public should be reassured that, overall, railroads are in fact taking prompt action when they become aware of conditions affecting the safe operation of highway-rail grade crossing warning systems.