U.S. House of Representatives
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SUMMARY OF SUBJECT MATTER

TO: Members of the Subcommittee on Railroads, Pipelines, and Hazardous Materials

FROM: Subcommittee on Railroads, Pipelines, and Hazardous Materials Majority Staff

SUBJECT: Markup of H.R. 2095, the Federal Railroad Safety Improvement Act of 2007

PURPOSE OF MARKUP

On Tuesday, May 22, 2007, at 3:00 p.m., in Room 2167 Rayburn House Office Building, the Subcommittee on Railroads, Pipelines, and Hazardous Materials is scheduled to mark up H.R. 2095, the Federal Railroad Safety Improvement Act of 2007.

H.R. 2095, THE FEDERAL RAILROAD SAFETY IMPROVEMENT ACT OF 2007

Background

The Federal Railroad Administration ("FRA") administers the Federal rail safety program. According to the FRA, there were a total of 13,046 accidents and incidents involving railroads in 2006. This total is divided into three components: train accidents, including collisions and derailments; grade-crossing accidents; and other incidents, which is defined as any event that caused a death, an injury, or an occupational illness to a railroad employee.

Since the FRA was last reauthorized in 1994, the total number of train accidents, including collisions and derailments, increased from 2,504 in 1994 to 3,325 in 2005. In 2006, the number of train accidents decreased to 2,835. According to the FRA, the two leading causes of all train accidents are human factors and track defects. In 2006, 1,017 accidents were caused by human factors and 1,032 accidents were caused by track defects. It was the first time that track defects surpassed human factors as the top cause of all train accidents since 2001. *See Attachment 1 for additional background information on rail safety.*

H.R. 2095 Summary

H.R. 2095 reorganizes the FRA as the Federal Railroad Safety Administration, and ensures that it will consider the assignment and maintenance of safety as the highest priority. It also creates a new position at the FRA, entitled Chief Safety Officer, who is appointed in the competitive service by the Secretary of Transportation.

The bill requires the Secretary to develop a long-term strategy for improving railroad safety, which must include a plan and schedule for reducing the number and rates of accidents, injuries, and fatalities involving railroads; improving the consistency and effectiveness of enforcement and compliance programs; identifying and targeting enforcement at, and safety improvements to, high-risk grade crossings; and improving research efforts to enhance and promote railroad safety and performance. The Department of Transportation ("DOT") Inspector General is required to submit a report to Congress, which lists each statutory mandate regarding railroad safety that has not been implemented and each open safety recommendation made by the National Transportation Safety Board ("NTSB") or the Inspector General regarding railroad safety. The Secretary is then required to transmit periodic progress reports to Congress on the specific actions taken to implement each statutory mandate and open safety recommendation.

H.R. 2095 seeks to help prevent accidents caused by human factors, which account for about 40 percent of all accidents, by strengthening the hours-of-service law for signalmen and train crews, increasing worker training and qualifications, and implementing advanced safety technologies. Specifically, the bill ensures that train crews and signalmen are provided with a minimum of 10 consecutive hours of rest after 12 consecutive hours on-duty and at least 24 consecutive hours of additional rest within a seven-day work period; reduces the number of days signalmen can exceed their maximum limits on hours-of-service for emergencies to no more than three days in a seven-day work period (consistent with dispatcher limits for emergencies); prevents railroads from forcing signalmen into emergency time (a total of 16 hours on-duty) for routine repairs, maintenance, and inspection of signal systems; prohibits railroads from communicating with signalmen and train crews during their off-duty time to enable them to obtain adequate rest; eliminates "limbo time" for train crews; prohibits railroads from providing sleeping quarters in an area or in the immediate vicinity of an area in which railroad switching or humping operations are performed; requires railroads to submit to the Secretary for review and approval fatigue management plans; and authorizes the Secretary to strengthen hours-of-service regulations to improve safety.

H.R. 2095 also requires railroads to develop and submit to the Secretary a plan for implementing a positive train control system by December 31, 2014, and to either install automatic switch position indicators in non-signaled territory or slow trains in non-signaled territory to enable a train to stop in advance of a misaligned switch. Improperly lined switches have consistently been the number one cause of human-factor accidents in the last several years.

H.R. 2095 addresses accidents caused by track defects, the leading cause of all train accidents in 2006, by requiring the railroads to manage the rail in their tracks to minimize accidents due to internal rail flaws. It also requires the Secretary to develop standards for concrete rail ties and to purchase six Gage Restraint Measurement System vehicles and five track geometry vehicles to

enable the deployment of one Gage Restraint Measurement System vehicle and one track geometry vehicle in each region. This funding will help increase inspection of railroad track for defects.

The bill strengthens safety at our nation's grade crossings by requiring railroads to establish, maintain, and post a toll-free number at all grade crossings to receive calls reporting malfunctions of signals, crossing gates, and other devices, or disabled vehicles blocking such crossings. It requires the Secretary to prescribe regulations requiring railroads to remove and maintain clear from its right-of-way at all grade crossings all vegetation that may obstruct the view of pedestrians and motor vehicle operators. The bill also requires the Secretary to develop model legislation for State and local governments providing for civil or criminal penalties, or both, for violations of grade crossings; requires railroads and States to report information on grade crossings to enable the Secretary to update its national crossing inventory and help states determine where best to dedicate their resources for crossing improvements; and requires the FRA to conduct an audit of each Class I railroad at least once every two years and each non-Class I railroad at least once every five years to ensure that all grade crossing collisions and fatalities are reported to the national accident database, as recommended by the DOT's Inspector General.

H.R. 2095 strengthens enforcement by increasing civil and criminal penalties; increasing transparency of all enforcement actions taken by the FRA; providing the Secretary with the authority to monitor and record railroad radio communications for the purpose of accident prevention and mitigations; and to increase the number of Federal railroad safety inspectors by about 100 inspectors per year for a total of at least 800 Federal railroad safety inspectors by the end of fiscal year 2011. There are currently 421 Federal rail safety inspectors and 160 State inspectors.

The bill strengthens whistleblower protections for rail workers and makes it unlawful to knowingly interfere, obstruct, or hamper an investigation by the Secretary or the NTSB. It requires railroads to provide rail workers with immediate medical attention when the workers are injured on the job, and provides all crew members with emergency escape breathing apparatus on freight trains carrying hazardous materials that would pose an inhalation hazard in the event of unintentional release. H.R. 2095 also contains the Rail Passenger Disaster Family Assistance Act, as reported by the Committee on Transportation and Infrastructure and passed by the House in the 108th Congress.

Prior Legislative and Oversight Activities

The FRA was last reauthorized by Congress in 1994, in the Federal Railroad Safety Authorization Act of 1994. That authorization expired in 1998. Since 1994, the Subcommittee has held 22 hearings on rail safety.

In the 110th Congress, the Subcommittee has held five hearings on rail safety. On January 30 and 31, 2007, the Subcommittee held hearings on reauthorization of the Federal rail safety program. On February 13, 2007, the Subcommittee held a hearing on fatigue. On March 16, 2007, the Subcommittee held a field hearing on the role of human factors in rail accidents.

On May 1, 2007, Chairman Oberstar introduced H.R. 2095, the "Federal Railroad Safety Improvement Act of 2007". On May 8, the Subcommittee held a hearing on rail safety legislation, including H.R. 2095.

Amendments

Specific information on amendments is not available at this time.

RAIL SAFETY

This attachment provides additional background information on rail safety issues.

Human Factors Accidents

Human factors are responsible for nearly 40 percent of all train accidents, and the FRA reports that fatigue plays a role in approximately one out of four of those accidents. The NTSB's in-depth investigations of accidents have also demonstrated that fatigue is a major factor in transportation accidents. According to the NTSB, "the current railroad hours-of-service laws permit, and many railroad carriers require, the most burdensome fatigue-inducing work schedule of any federally-regulated transportation mode in this country."

A commercial airline pilot (part 121) can work up to 100 hours per month; a commercial airline pilot (part 135) can work up to 120 hours per month; shipboard personnel (ocean going) can work up to 360 hours per month; and a truck driver can be on-duty up to 350 hours per month. Meanwhile, train crews can operate a train up to 432 hours per month. That equates to more than 14 hours a day for each of those 30 days.

The NTSB has recommended on numerous occasions that the FRA establish within two years scientifically based hours-of-service regulations that set limits on hours-of-service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements. However, the FRA is the only modal administration within DOT that has hours-of-service standards mandated by statute and, therefore, may not be adjusted or modified by administrative procedures.

The Hours of Service Act was first enacted in 1907; it was last substantially amended in 1969. Since that time, a number of serious train accidents have occurred as a result of operator fatigue. One of the issues of concern relating to fatigue is "limbo time". Limbo time is a term used to describe the period of time when a train operating crew's hours-of-service has expired, but the crew has not yet arrived at their point of final release; meaning, the off-duty location or terminal point where they can go home or obtain food and lodging at an away from home terminal. Limbo time also accrues for train operating crews whose trains are stopped on a line of track, frequently due to the expiration of their 12-hour on-duty time limit, before they reach their destination terminal (point of final release). Limbo time accrues for the time the train is stopped until the crew arrives at the final release point, and includes time spent in transportation to their final release point, as well as time spent waiting for transportation to pick them up from their train.

During limbo-time, crew members are required to stay awake, alert, and able to respond to any situation and follow the railroad's operating rules. Although current law does not classify limbo time as either on-duty or off-duty time, any required minimum rest period does not begin until the limbo time period ends. Limbo time can and has kept railroad operating crews effectively on-duty for significantly more than the 12-hour on-duty time limit. For instance, in a 2004 Macdona, Texas

train accident, a Union Pacific ("UP") engineer worked for 22 hours (12 hours on-duty and 10 hours of limbo time).

As a result of that accident, the NTSB concluded, "The minimum rest periods prescribed by Federal regulations do not take into account either rotating work schedules or the accumulated hours spent working and in limbo time, both of which can affect the ability of an employee to obtain full rest and recuperation between job assignments." The NTSB recommended that the FRA require railroads to use scientifically based principles when assigning work schedules for train crew members, which consider factors that impact sleep needs, to reduce the effects of fatigue and establish requirements that limit train crewmember limbo time to address fatigue.

The NTSB also stated that it "remains concerned about the safety of railroad operations where backup systems are not available to intervene when, as in this accident, a train crew operates a train improperly or fails to comply with wayside signals. Board accident investigations over the past three decades have shown that the most effective way to prevent train-to-train collisions is through the use of a positive train control (PTC) system that will automatically assume some control of a train when the train crew does not comply with signal indications."

Over the years, the NTSB has issued a series of recommendations on PTC. In fact, PTC has remained on the Board's Most Wanted Transportation Safety Improvements list since 1990. The NTSB concluded that the Macdona, Texas, accident is "another in a long series of railroad accidents that could have been prevented had there been a PTC system in place at the accident location."

Track-related Accidents

In 2006, defective track was the leading cause of all train accidents. Prior to 2006, it was either the leading or second leading cause of all train accidents. A series of recent high-profile accidents have called into question the adequacy of track safety regulations, the railroads' track inspection and maintenance programs, and the FRA's oversight of those programs.

On March 12, 2007, a CSX train derailed in Oneida, New York. The cause was defective track. It was one of a series of accidents in Upstate New York, and the FRA launched a rail inspection project to check 1,300 miles of CSX track across New York State for flaws that might lead to a train derailment. On April 18, 2007, the FRA announced that it had found 78 track defects and one serious violation during the audit. The FRA's ongoing review of rail safety in New York has now been expanded to other railroads.

On April 3, 2005, a westbound Amtrak train derailed on BNSF's tracks in Home Valley, Washington. Thirty passengers sustained minor injuries; 14 of those people were taken to local hospitals. Track and equipment damages, in addition to clearing costs associated with the accident, totaled about $854,000. The NTSB determined that the cause of the accident was BNSF's inadequate response to multiple reports of rough track conditions that were subsequently attributed to excessive concrete crosstie abrasion, which allowed the outer rail to rotate outward and create a wide-gauge track condition. Contributing to the accident was the FRA's failure to provide adequate track safety standards for concrete crossties.

On April 6, 2004, an Amtrak train derailed on Canadian National-owned and maintained track near Flora, Mississippi. The entire train derailed, including one locomotive, one baggage car, and eight passenger cars. The derailment resulted in one fatality, three serious injuries, and 43 minor injuries. The equipment costs associated with the accident totaled about $7 million. In its Railroad Accident Report, the NTSB determined that the probable cause of the accident was "the failure of the Canadian National Railway Company to properly maintain and inspect its track, resulting in rail shift and the subsequent derailment of the train, and the Federal Railroad Administration's ineffective oversight to ensure proper maintenance of the track by the railroad."

On October 16, 2004, a UP freight train derailed three locomotives and 11 cars near Pico Rivera, California. Small amounts of hazardous materials were released from the transported cargo. There were no injuries to area residents, the train crew, or the emergency response personnel. UP estimated the monetary damage at $2.7 million. In its Railroad Accident Brief, the NTSB determined "that the probable cause of the derailment was the failure of a pair of insulated joint bars due to fatigue cracking. Contributing to the accident was the lack of an adequate on-the-ground inspection program for identifying cracks in rail joint bars before they grow to critical size."

On January 18, 2002, a Canadian Pacific freight train derailed 31 of its 112 cars near Minot, North Dakota. Five tank cars carrying anhydrous ammonia, a liquefied compressed gas, catastrophically ruptured, and a vapor plume covered the derailment site and surrounding area. About 11,600 people that occupied the area were affected by the vapor plume. One resident was fatally injured, and 60 to 65 residents of the neighborhood nearest the derailment site were rescued. As a result of the accident, 11 people sustained serious injuries, and 322 people, including the two train crew members, sustained major injuries. Damages exceeded $2 million, and more than $8 million has been spent in environmental remediation.

In its Railroad Accident Report, the NTSB determined that the probable cause of the derailment was "an ineffective Canadian Pacific Railway inspection and maintenance program that did not identify and replace cracked joint bars before they completely fractured and led to the breaking of the rail at the joint." The NTSB also found that the FRA's requirements regarding rail joint bars in continuous welded rail ("CWR") were ineffective and that the FRA's oversight of Canadian Pacific's CWR program was ineffective, because the FRA neither reviewed the CWR program nor ensured that its track inspectors had copies of the CWR programs to determine if the railroad was in compliance with it.

On March 17, 2001, a westbound Amtrak train traveling on BNSF tracks derailed near Nodaway, Iowa. As a result of the derailment, one person died and 77 people were injured. The NTSB determined that the probable cause of the derailment of the Amtrak train was the failure of the rail beneath the train, due to undetected internal defects. BNSF had failed to inspect the rail that it used to replace a defective rail. The replacement rail was also defective. According to the NTSB, contributing to the accident was the BNSF's lack of a comprehensive method for ensuring that replacement rail is free from internal defects.

Grade-Crossing Accidents

There are 243,016 grade crossings in the United States, of which 149,628 or 62 percent are public crossings. Of these public crossings, 63,387 or 42 percent have automatic warning devices.

Since the FRA was reauthorized in 1994, significant progress has been made in reducing collisions and fatalities at grade crossings. From 1994 to 2006, total train miles traveled in the United States increased from 655 million miles to 810 million miles, and the total miles traveled by motor vehicle increased from 2.3 trillion miles to 2.9 trillion miles. During the same period, collisions at the nation's grade crossings have decreased from 4,979 in 1994 to 2,908 in 2006. Fatalities have also decreased from 615 in 1994 to 366 in 2006, and injuries have decreased from 1,961 to 1,006 during the same period.

The DOT Inspector General reports that 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.

Recent audit reports of the DOT Inspector General, however, show that the DOT can do more to improve grade crossing safety. The audits were requested by Chairman James L. Oberstar, Subcommittee on Railroads, Pipelines, and Hazardous Materials Chairwoman Corrine Brown, and former Senator Ernest Hollings in response to a series of *New York Times* articles that alleged problems with railroad accident reporting, investigations at grade crossings, and several other safety issues.

The DOT Inspector General found that railroads failed to report 21 percent of reportable grade-crossing collisions to the National Response Center ("NRC"). Railroads are required to report grade-crossing collisions involving fatalities and/or multiple injuries to passengers or train crew members, and fatalities to motorists or pedestrians involved in grade-crossing collisions to the NRC. Pursuant to FRA and NTSB regulations, railroads are required to report accidents within two hours. Immediate reporting allows the Federal Government to decide whether or not to conduct an investigation shortly after a grade-crossing collision has occurred. The DOT Inspector General's analysis showed that 115 of 543 (21 percent) reportable grade-crossing collisions that occurred between May 1, 2003, and December 31, 2004, were not reported to the NRC. Although the 115 unreported grade-crossing collisions, which resulted in 116 fatalities, were reported to the 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 to conduct an investigation. In July 2004, the FRA began reconciling its database with the NRC to identify unreported accidents. In March 2005, it began issuing findings of violations to railroads failing to follow reporting requirements.

The DOT Inspector General also found that the Federal Government investigated only a small number of grade-crossing collisions and needs to collect and analyze independent information on all grade-crossing collisions. From 2000 through 2004, FRA investigated 47 of 376 (13 percent) of the most serious grade-crossing collisions that occurred — those collisions resulting in three or more fatalities and/or severe injuries. No Federal investigations were conducted for the remaining 329 crossing collisions. Those collisions 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 the FRA. However, the NTSB tends to investigate only high-profile, grade-crossing collisions. For example, from 2000 though 2004, the NTSB conducted seven grade-crossing collision investigations. Consequently, the Federal Government did not independently investigate most grade-crossing collisions, but rather received information concerning the causes of collisions almost exclusively from the railroads.

The railroads' grade-crossing accident reports attributed more than 90 percent of the collisions that occurred from 2000 through 2004 to motorists, but the FRA did not conduct its own investigations to verify the causes. Independently collecting and analyzing information about grade crossing collisions would substantially improve the 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 the FRA's inspection staff. Nationwide, 55 of 421 FRA inspectors are assigned to inspect the 63,387 warning signal systems at grade crossings.

The low-level of FRA inspectors combined with the extensiveness of the U.S. railroad system limits the FRA's ability to investigate each accident or incident and inspect each railroad and mile of track. In 2004, the Federal Aviation Administration ("FAA") conducted on-site investigations of 1,392, or 93 percent, of the 1,484 general aviation accidents that the FAA had responsibility for investigating in 2004. Unlike the FRA, however, the FAA has an Office of Accident Investigations staffed with eight full-time investigators whose mission is to detect unsafe conditions and trends and to coordinate the process for corrective actions. In addition, the FAA uses personnel from other disciplines to conduct investigations, including 2,989 inspectors from its Office of Aviation Safety.

The DOT Inspector General also found that the FRA investigated few accidents and recommended few findings of violations for critical safety defects identified through inspections. According to the Government Accountability Office, the FRA investigates two-tenths of one percent of all railroad operations. From 2002 through 2004, for example, 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 five percent, for findings of violations that carry a fine. According to the Inspector General, the FRA's policy of inspectors using their discretion in deciding whether to recommend a violation has resulted in a small number of critical defects recommended for violations. Furthermore, after violations are determined, Federal law allows the FRA to negotiate-down the amount of civil penalties proposed, resulting in the collection of lower penalties, despite the many critical safety defects found. According to the Inspector General, on average, the FRA settles fines with the railroad at about 60 cents on the dollar.

Finally, the Inspector General found that the FRA needed to do more to improve grade-crossing safety by addressing sight obstructions, including overgrown vegetation, that block highway users' view of approaching trains. Of the 15,416 grade-crossing reports submitted by the railroads from 2001 through 2005, 689 documented a sight obstruction. These 689 collisions resulted in 87 fatalities and 242 injuries.

Nationwide, there are nearly 76,000 public grade crossings that are not protected with automated warning devices. Currently, FRA regulations only require the railroads to address vegetation growth at these public grade crossings. Some states have passed more stringent laws or issued more stringent regulations that address vegetation and other sight obstructions at grade crossings. But the FRA has no assurance that overgrown vegetation and sight obstructions are addressed in states that lack such laws.