July 21, 2005

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON TRANSPORTATION and INFRASTRUCTURE
SUBCOMMITTEE ON RAILROADS

HEARING ON RAILROAD GRADE CROSSING SAFETY ISSUES

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Good Morning. Mr. Chairman and members of the Committee. It is an honor for me to testify before this committee again in order to address Railroad Grade Crossing Safety Issues, a subject of great concern to this country and to all employees of the nation's railroads.

My name is Dan Pickett, and I am the International President for the Brotherhood of Railroad Signalmen. The Brotherhood of Railroad Signalmen ("BRS"), a labor organization with headquarters at 917 Shenandoah Shores Road, Front Royal, Virginia,

22630-6418, submits the following comments concerning railroad grade crossing safety issues.

The BRS, founded in 1901, represents approximately 9,000 members working for railroads across the United States and Canada. Signalmen install, maintain and repair the signal systems that railroads utilize to direct train movements. Signalmen also install and maintain the grade crossing signal systems used at highway-railroad intersections, which play a vital role in ensuring the safety of highway travelers. Throughout our entire existence, the BRS has dedicated itself to making the railroad workplace safer, not just for rail workers, but also for the public at large.

Highway Grade Crossing Systems:

The nation's highway grade crossings offer one of the most serious public safety hazards on today's railroad system. Crossing accidents represent, by far, the greatest source of fatal accidents in the railroad industry. Based on information from the FRA website from 2003, the past decade has seen a yearly average of 5,866 crossing accidents resulting in an average of 2,326 injuries and 643 fatalities.

Approximately one-third of all highway-rail grade crossings have some type of active warning devices, leaving nearly two-thirds of our nation's highway-rail grade crossings with no active warning devices installed.

Both train and highway traffic has increased dramatically over the past decade. Since 1985, Class 1 train miles increased 27 percent, while no less than five new commuter rail systems began operation.

Resources such as Section 130 Federal funds are needed to install and upgrade these active highway-rail grade crossing warning systems. It is unfortunate that the

appropriations used to fund this safety program have been reduced. Obviously, funding for Rail Highway Crossing Safety Programs such as Section 130 need to be increased so as to provide adequate warning devices at all public crossings. It is an excellent program and should be continued.

Before any discussion of Highway Rail Grade Crossing Safety, it should be noted that the rail industry is moving more freight with less employees than at any time in the history of railroading. This is a critical point that must be acknowledged. Through mergers and railroad management's never-ending quest to eliminate workers, railroad staffing levels are at an all time low and continue to drop. Those railroad employees that are left are working longer hours for many days at a time. A 12 to 16-hour day is not unusual for a railroad worker and in many cases it is the norm. Railroads are abusing the very asset that is their most important resource that secures their property day in and day out.

When discussing highway rail grade crossing safety, it is important to understand the major malfunctions of these systems: false activations and activation failures. *False activation* means the activation of a highway-rail grade crossing warning system caused by a condition that requires correction or repair of the grade crossing warning system. (This failure indicates to the motorist that it is not safe to cross the railroad tracks when, in fact, it is safe to do so.) *Activation failure* means the failure of an active highway-rail grade crossing warning system to indicate the approach of a train at least 20 seconds prior to the train's arrival at the crossing, or to indicate the presence of a train occupying the crossing, unless the crossing is provided with an alternative means of active warning to highway users of approaching trains. (This failure indicates to the motorist that it is safe

to proceed across the railroad tracks when, in fact, it is not safe to do so.) Activation failures are the more serious of the two.

Activation Failures Concern the FRA and BRS

Following three highway-rail grade crossing warning device activation failures this year, the FRA and BRS have been trying to increase the awareness of possible shortcomings of some crossing warning systems and training. The FRA has identified three different issues on crossing warning device safety: manual cut-outs, fouling circuits, and crossing design and testing integrity. Ensuring that crossing warning devices function properly and provide adequate warning to the traveling public is one of the most important jobs of Signalmen.

Design deficiencies and omissions are of particular concern, and BRS members are more likely than any one else to discover these types of problems before there is an accident or incident. Too often, design deficiencies and omissions do not become apparent until after an accident or incident. On extremely rare occasions, a poorly designed crossing warning system may fail to warn motorists of an approaching train. Another example of a poor design, and much more common, is a crossing warning system that activates unnecessarily. Warning systems that activate routinely without a train movement over the crossing, or false activation, cause the crossing warning device to lose credibility with the traveling public. This, in turn, develops a situation where drivers and pedestrians often ignore warnings, credible or not.

A properly designed system can eliminate the need to use manual cut-outs and the problems associated with fouling circuits in close proximity to a highway-rail grade

crossing. Often a poorly designed system is the result of legacy technology. Numerous crossing warning systems across the country still use equipment based on relay logic that is rooted in outdated and obsolete technology. Many modern-day systems are basically computers that provide inbound and outbound motion detection as well as train prediction technology using speed, acceleration, and distance algorithms.

Throughout the history of highway rail grade crossing signal systems there have always been changes in technology to provide protection to the traveling public. No more so than today. DC relay grade crossing signal systems have been in place for over 100 years and are still in service across much of the country. The introduction of computers and solid-state equipment has improved many aspects of how we detect the presence of trains and warn the traveling public. Signalmen today not only have to learn and know the systems of the past but they must also acquire the knowledge that allows them to work on the new systems, which are constantly in a state of flux due to the new revisions and changes to the software contained in the solid-state systems.

It is important to note that both the "old" technology and the "new" systems protect the traveling public with a high degree of accuracy and are very safe. However both systems have their pluses and minuses, and neither is 100 percent perfect.

Reduction of Signal Personnel

In the Brotherhood of Railroad Signalmen we have seen a steady decline in membership and as a matter of fact over the last five years, the railroads have cut over 12 percent of the signal jobs. Railroad hiring practices are not even keeping up with normal

attrition, let alone preparing the wave of signal employees who will be retiring over the next 10-year period. In many cases, when a signal employee retires the railroads decide to abolish that job, divide the territory, and increase the adjoining maintenance territories by equal amounts. The amount of work has not declined only the amount of people that are left to perform that work. The decline in signal jobs has a direct correlation to safety. Fewer signal maintainers, the additional responsibility and longer hours make for dangerous conditions.

To further illustrate this point, during the past 10 years there has been a change on how signal jobs are filled. There are two types of signal jobs: construction and maintenance. Construction jobs consist of multiple Signalmen who travel across the railroad property performing various construction tasks. The upside of these jobs are they are not subject to call, and they work with other individuals. The downside is that you are away from your family the majority of your time on those jobs. Maintenance jobs have a specific territory with specific responsibilities. The main positive of maintenance jobs is that you usually get to sleep in your own bed every night. However, there are many negatives to maintenance jobs. Signal Maintainers are subject to 24-hour call, usually work alone, and have a multitude of responsibilities concerning compliance with a plethora of federal regulations. Throughout the history of the BRS, the upside of being able to go home to your family every night outweighed the negatives of maintenance jobs. It was not uncommon for a new hire to work 10 or 20 years in a construction job before you could secure a maintenance job. In general you had the most experienced Signalmen on the most difficult jobs and the least experienced Signalmen on construction jobs where they were surrounded by other workers and received critical guidance during the start of their careers. In the past 10 years we have seen a shift of that old paradigm. Due to the reductions in overall staffing levels, which

brought lengthened territories and increased responsibilities, the more experienced signalmen are opting to work in construction and the younger least experienced Signalmen are being forced on to the most trying or difficult jobs. The less experience you have the greater the possibility of making a mistake because you do not have the institutional knowledge to draw on to aid you in emergency situations.

In the past, if anyone wanted to work on anything that affected the normal function of the highway grade crossing signal systems, signal personnel would be dispatched to establish the protection of the public and railroad employees at the crossings affected; they would stay there to ensure that conditions did not change that affected the safety of the public and the employees; and as the work was completed, signal employees would test the highway grade crossing signal systems to ensure that they functioned properly as they were restored to service.

Staffing levels have gotten so low, many railroads are trying to institute policies or procedures that permit non-signal personnel to place shunts down on tracks or jumpers around track work to supercede the intended functioning of the highway grade crossing signal systems.

Railroads have tried to implement superficial “training” of non-signal personnel to place a shunt on the track or a jumper around the rail where they are working to supercede the intended functioning of the highway rail grade crossing signal systems. This type of “training” is not the same as having a person properly trained to understand the implications of his actions when a shunt or jumper has been placed on the track. This is a critical distinction. It is important to know if the system functions as intended over the area where the non-signal employees have performed their work.

It is imperative that the FRA Grade Crossing Signal System Safety Regulations are complied with in every instance when non-signal personnel utilize a shunt or jumper when performing work on the track. Signal Maintainers are responsible for the safety of the traveling public at highway rail grade crossings.

It makes no sense in this time of heightened security and increased awareness for highway rail grade crossing safety to use unqualified personnel to install wires and make decisions concerning crossing warning signal system safety that they are neither trained for nor understand the implications of all of their actions.

The inability to perform adequate testing and the failure to comply with minimum federal regulations have contributed, if not caused, many recent railroad accidents. In their never ending zeal to focus on the financial bottom line, railroads have allowed staffing levels to fall below the minimum needed to perform basic safety functions.

Training and Education:

When ensuring safety at highway rail grade crossings, training and education is another key preventive measure that needs to be considered. As cited in the examples earlier, less experienced signal employees are working some of the most difficult and demanding jobs. In most cases, the training period for an Assistant Signalman is two years of on-the-job training coupled with eight weeks of training, comprised of two-week intervals every six months. It takes approximately two years to graduate to the class of Signalman.

The railroads are utilizing signal employees who have not completed the minimum two-year training required to achieve the class of Signalman. Due to the technological advances in highway rail grade crossing signal systems, advanced training is also necessary

to stay abreast of the changes in the field. The BRS has had an Advanced Training Agreement with the Class I railroads in effect for over 10 years. The reason the Advanced Training Agreement was negotiated at the national level was to ensure that signal employees would continue to improve the skills of the professional men and women that install and maintain safety systems for the rail industry. This is an area that will improve safety. The BRS continues to work to implement training provisions, which were agreed to by the industry – but to date have not been implemented on many of our nation's railroads.

Four Quadrant Gates:

Any discussion of highway rail grade crossing safety would not be complete without addressing the utilization of four-quadrant gates. The BRS has recommended that four quadrant gates be implemented at crossings in the United States to prevent accidents and reduce the severity of accidents that do occur. We have made this recommendation to the National Transportation Safety Board (NTSB), the Federal Railroad Administration (FRA) and the Department of Transportation (DOT). The BRS recommends the installation of an active grade crossing warning device, which incorporates a four quadrant gate arrangement. Four quadrant gates can be operated by the same control systems that are used to operate two gates.

The BRS believes that four quadrant gates offer an immediate, near term solution to the problem of providing grade crossing safety on all rail lines. By “sealing” the crossing, they provide a safe yet effective barrier across all possible lanes of highway travel. Four-quadrant gates are extremely effective in keeping vehicles off of highway-rail crossings. Studies have shown that the operators of cars and trucks are reluctant to go through a gate and damage their vehicles.

Four-quadrant gates differ from conventional gate-protected crossings in that the four-quadrant gate places a physical barrier across all lanes of traffic; thus, both the traffic lanes entering the crossing as well as the traffic lanes exiting the crossing are blocked by the gates. This eliminates the problem of impatient drivers attempting to drive around the lowered gates, a problem that frequently occurs with conventional two-quadrant gate systems.

Installation and maintenance costs of four-quadrant gates are just a fraction more than the costs associated with conventional two-quadrant gate systems. The only modification required is the installation of two additional gate mechanisms and a timing device that would allow vehicles to exit the crossing before lowering the gates across the traffic exit lanes.

In recent years the North Carolina Department of Transportation (NCDOT) and Norfolk Southern (NS) embarked in a test program called the "Sealed Corridor" project. NCDOT has reported that the four quadrant gates reduced vehicular crossing violations by 86 percent. This same study showed that when using four quadrant gates in conjunction with median barriers, it reduced vehicular crossing violations by 98 percent.

Much is made about the issue of "trapping" an errant motorist on the crossing between the entry and exit gates. A representative of NCDOT stated that its research, "has shown very few cases of trapping. We have found that such violations have been committed by aggressive drivers that make up a small portion of the traveling public. One interesting characteristic of these aggressive drivers is their ability to 'take care of themselves' and stay out of harms way. Trapping is a minor concern, considering the incidents and fatalities that occurred prior to the installation of four-quadrant gates." If

further research shows that "trapping" is a problem, motor vehicle detection systems could be installed within the crossing to eliminate this problem.

Because of the inherent safety value, the Brotherhood of Railroad Signalmen believes that four-quadrant gates should be considered as a minimum standard for all current rail projects where grade crossing warning systems are installed.

The cost of installing four-quadrant gates at a passive crossing (where there is nothing more than cross bucks) is approximately $150,000.

The safety benefits that could derive from adopting four-quadrant gates as a standard in this country would be tremendous. While crossing safety has been improved over the last five years, the time has come to take another step forward and improve grade crossing safety to the next level.

Nationwide Telephone Notification System:

The incorporation of a nationwide telephone notification system would greatly improve safety for our nation's grade crossing signal systems. The BRS has long recommended that a nationwide telephone reporting system such as a 1-800 system, be developed to allow members of the public to report crossing signal malfunctions. The FRA has made this a recommendation; it is not presently required by regulation. As such, while many Class I railroads have voluntarily implemented some type of 1-800 notification system, most Class II, Class III, and short line railroads have not.

We need to provide funding for the infrastructure to ensure that these systems are implemented and that we can therefore reap the much needed safety benefits.

Conclusion

There is much to accomplish to make the nation's highway rail grade crossing safer for communities, the traveling public and for the employees. By focusing on improved infrastructure, proper staffing, and adequate training improved highway rail grade crossing can become a reality. Experience also teaches us that it is Congress that must provide the leadership to make safety a reality. I hope we can work together to see that improved safety practices become a reality.

On behalf of rail labor, I appreciate this opportunity to testify before the Committee. At this time I would be more than pleased to answer any questions.

Respectfully submitted,

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