National Transportation Safety Board

Washington, D.C. 20594

Office of the Chairman

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Docket Management Facility
U.S. Department of Transportation
West Building, Ground Floor, Room W12-140
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

ATTN: Docket No. FMCSA–2007–27748

Dear Sir or Madam:

The National Transportation Safety Board has reviewed the Federal Motor Carrier Safety Administration's (FMCSA's) notice of proposed rulemaking (NPRM), "Minimum Training Requirements for Entry-Level Commercial Motor Vehicle Operators," published in 72 *Federal Register* 73226 on December 26, 2007. The Safety Board has been an advocate of basic and supplemental training for commercial drivers for over two decades, and it welcomes this opportunity to comment on the FMCSA's proposal to establish minimum classroom and behind-the-wheel training curricula for persons applying for new or upgraded commercial driver's licenses (CDLs).

One of the areas addressed by the NPRM is the role of simulator-based training in the curricula. About five-eighths of the proposed curricula is composed of classroom instruction, and the rest consists of behind-the-wheel training. The FMCSA proposes not to authorize the substitution of simulator-based training for behind-the-wheel training because of the absence of research regarding the transfer effectiveness of simulator-based training to actual commercial motor vehicle operations. However, the FMCSA encourages the authorized use of simulators or computer-based instruction for classroom training when appropriate. The FMCSA further states that it is funding a truck simulator validation study (Sim Val), scheduled to be completed by 2010, to determine whether simulator-based training can be an effective method for training commercial drivers.

The Safety Board has been a proponent of simulator-based training for commercial motor vehicle drivers since its investigation into a 1997 multiple-vehicle accident that killed eight people in Slinger, Wisconsin.[1] The accident occurred due to the "truck driver's lack of judgment in driving too fast for the configuration of his truck under the hazardous highway weather conditions [ice and crosswinds]." As a result of its investigation, the Safety Board issued Safety Recommendation H-98-8 to the Federal Highway Administration. The recommendation states

[1] National Transportation Safety Board, *Multiple Vehicle Crossover Accident, Slinger, Wisconsin, February 12, 1997*, Highway Accident Report NTSB/HAR-98/01 (Washington, DC: NTSB, 1998).

H-98-8

Work, together with the National Highway Traffic Safety Administration, the American Trucking Associations, the International Brotherhood of Teamsters, and the Motor Freight Carrier Association, to encourage the development and use of simulator-based training for heavy truck operators.

Safety Recommendation H-98-8 is currently classified "Open—Acceptable Response," pending actual development and use of simulator-based training for heavy truck operators.

Simulators are used extensively in other transportation modes (such as aviation, rail, and marine) to provide basic and refresher training. They have been particularly useful for training operators to recognize and respond to unsafe situations, such as hazardous conditions or vehicle malfunctions. The U.S. military and a few large carriers and driving schools already use heavy truck simulators as instructional tools for their drivers. For example, Schneider National, a major trucking company, has been using motion-based driving simulators in its driving academies since 2005 and claims that the technology has resulted in improved graduation rates, higher retention rates, shortened training times, and fewer accidents among its graduates.[2]

The Safety Board notes the FMCSA's reluctance to allow simulator-based training to substitute for behind-the-wheel time, especially given that behind-the-wheel training is generally regarded as the training "gold standard" and the proposed curricula are not yet validated. The FMCSA's proposal to authorize simulator-based instruction in place of classroom time appears reasonable, and the Safety Board believes that, particularly within the "Safe Operating Practices" and "Advanced Operating Practices" sections of the proposed curricula, this instructional mode would be of value in preparing drivers to respond to hazardous driving situations. The Safety Board encourages the FMCSA to collaborate with those entities that are already using simulators as an instructional tool to supplement its findings from the Sim Val study (when available), to identify specific areas within the proposed curricula that would be best suited for simulator-based training, and to generate minimum performance-based standards for simulators that can be used for entry-level training. These steps should help ease the integration of simulators into the entry-level training curricula and allow those carriers and training schools that are already using simulator-based training to continue doing so within the structure of the curricula.

The FMCSA's 2005 *Report to Congress on the Large Truck Crash Causation Study*[3] identified brake problems as the most common associated risk factor in large truck crashes. This finding is consistent with the Safety Board's own investigative experience.[4] In 1992, the Safety

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[2] See online article in *Heavy Duty Trucking*, "Simulated training: Taking a cue from the airlines and the military, trucking is looking at high-tech driver simulators to improve safety training." Accessed February 13, 2008, at <http://www.heavydutytrucking.com/2006/09/044a0609.asp>.

[3] Federal Motor Carrier Safety Administration, *Report to Congress on the Large Truck Crash Causation Study*, MC-R/MC-RIA (Washington, DC: FMCSA, 2005).

[4] (a) National Transportation Safety Board, *Francisco Flores Truck/Pickup Truck with Camper and Trailer Collision, U.S. Route 395, Bishop, California, June 29, 1974*, Highway Accident Report NTSB/HAR-75/05 (Washington, DC: NTSB, 1975). (b) *Texas Bus Lines, Inc., Charter Bus State Route 7, Near Jasper, Arkansas, June 5, 1980*, Highway Accident Report NTSB/HAR-81/01 (Washington, DC: NTSB, 1981). (c) *Direct Transit Lines, Inc., Tractor-Semitrailer/Multi-Vehicle Collision and Fire, U.S. Route 40, Frostburg, Maryland, February 18, 1981*, Highway Accident Report NTSB/HAR-81/03 (Washington, DC: NTSB, 1981). (d) *Eureka Springs, Arkansas, September 13, 1985*, Highway Accident/Incident Summary Report NTSB/HAR-87/01/SUM

Board completed a study on heavy vehicle air brake performance,[5] which resulted in 35 recommendations being issued to improve the function, maintenance, and inspection of brake systems, including 1 recommendation to the Professional Truck Driver Institute (PTDI), urging it to

> H-92-81
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> Incorporate brake maintenance materials developed by the American Trucking Associations into a training curriculum that cautions drivers about the instabilities of lightly loaded combination vehicles when operated on low-friction road surfaces.

Safety Recommendation H-92-81 is currently classified "Open—Acceptable Response." The PTDI informed the Safety Board in a February 2008 response that it is reviewing its entry-level driver skill standards and will review its curriculum standards. The PTDI further stated that it will address Safety Recommendation H-92-81 during this process and will inform the Safety Board about whether and how the recommendation is implemented.

In 2006, the Safety Board published a report on an accident that occurred in Glen Rock, Pennsylvania.[6] A dump truck that was unable to brake while descending a steep hill collided with four passenger cars at an intersection, killing two individuals and injuring three others. During its investigation, the Safety Board found that the rear-axle brakes of the truck were out of adjustment and that the driver had been in the habit of manually adjusting his truck's automatic slack adjusters. As a result, the Board issued several recommendations to vehicle and brake manufacturers, the States, training groups, and Federal and independent safety agencies addressing the importance of performing proper brake maintenance. The following recommendation was issued to the FMCSA:

(Washington, DC: NTSB, 1987). (e) *Braking Deficiencies on Heavy Trucks in 32 Selected Accidents*, Safety Study NTSB/SS-88/06 (Washington, DC: NTSB, 1988). (f) *Collision Between Mission Consolidated Independent School District School Bus and Valley Coca-Cola Bottling Company, Inc., Tractor-Semitrailer, Intersection of Bryan Road and Texas Farm-To-Market Road 676, Alton, Texas, September 21, 1989*, Highway Accident Report NTSB/HAR-90/02 (Washington, DC: NTSB, 1990). (g) *Heavy Vehicle Airbrake Performance*, Safety Study NTSB/SS-92/01 (Washington, DC: NTSB, 1992). (h) *Mayflower Contract Services, Inc., Tour Bus Plunge from Tramway Road and Overturn Crash, Palm Springs, California, July 31, 1991*, Highway Accident Report NTSB/HAR-93/01 (Washington, DC: NTSB, 1993). (i) *Truck Loss of Braking Control on Steep Downgrade and Collision With a Vehicle Near Plymouth Meeting, Pennsylvania, April 25, 1996*, Highway Accident Summary Report NTSB/HAR-97/02/SUM (Washington, DC: NTSB, 1997). (j) *Motorcoach Loss of Control and Overturn, New Mexico State Route 475, March 2, 1999*, Highway Accident Brief NTSB/HAB-01/01 (Washington, DC: NTSB, 2001). (k) *Collision Between Truck-Tractor Semitrailer and School Bus Near Mountainburg, Arkansas, May 31, 2001*, Highway Accident Report NTSB/HAR-02/03 (Washington, DC: NTSB, 2002). (l) Highway Accident Investigation HWY-02-MH-003 concerning an October 2001 work zone collision accident in Monaca, Pennsylvania. (m) *Collision Between a Ford Dump Truck and Four Passenger Cars, Glen Rock, Pennsylvania, April 11, 2003*, Highway Accident Report NTSB/HAR-06/01 (Washington, DC: NTSB, 2006). (n) *Rear-End Chain-Reaction Collision, I-30 West, Near Sulphur Springs, Texas, June 13, 2004*, Highway Accident Brief NTSB/HAB-08/02 (Washington, DC: NTSB, 2008).

[5] NTSB/SS-92/01.

[6] NTSB/HAR-06/01.

H-06-1

Work with the Commercial Vehicle Safety Alliance to develop and add to the North American Standard Inspection training materials a module that emphasizes that manually adjusting automatic slack adjusters is dangerous and should not be done, except during installation or in an emergency to move the vehicle to a repair facility, because manual adjustment of this brake component (1) fails to address the true reason why the brakes are not maintaining adjustment, giving the operator a false sense of security about the effectiveness of the brakes, which are likely to go out of adjustment again soon, and (2) causes abnormal wear to the internal adjusting mechanism for most automatic slack adjusters, which may lead to failure of this brake component.

The FMCSA informed the Safety Board in September 2007 that it planned to work with the Commercial Vehicle Safety Alliance to modify the North American Standard Inspection training materials to include a module about the potential safety risks associated with manually adjusting automatic slack adjusters. As a result, the Safety Board classified Safety Recommendation H-06-1 "Open—Acceptable Response."

These Safety Board accident investigations indicate that many drivers are unfamiliar with the operational capabilities and inner workings of a commercial vehicle braking system. The Safety Board urges the FMCSA to include information on braking dynamics under various vehicle loading and environmental conditions in its entry-level classroom instruction, as recommended in Safety Recommendation H-92-81. It should be noted that the conditions described in Safety Recommendation H-92-81 (lightly loaded vehicle, low-friction road surface) were identical to those faced by the driver in the Slinger, Wisconsin, accident, which took place 5 years after the recommendation was issued. Had the Slinger accident driver been trained in proper braking when faced with these conditions, the Slinger accident might have been averted. The Safety Board also urges the FMCSA to include information on automatic slack adjusters in its entry-level classroom training, as well as a warning that such adjusters not be manually adjusted, as stated in Safety Recommendation H-06-1.

The Safety Board is also pleased that the FMCSA plans to address driver distraction issues in its entry-level training, including distraction caused by in-cab technologies. This provides the FMCSA with an excellent opportunity to introduce new entrants to vehicle and infrastructure-based technologies that may facilitate safer commercial vehicle operations. As a result of its 2001 special investigation concerning collision warning and adaptive cruise control technologies,[7] the Safety Board made the following recommendation to the American Trucking Associations, Inc. (ATA), the National Private Truck Council (NPTC), and the Owner-Operator Independent Drivers Association (OOIDA):

H-01-16

Encourage your members to obtain or provide, or both, training to those drivers who operate collision warning system- or adaptive cruise control-equipped trucks.

[7] National Transportation Safety Board, *Vehicle- and Infrastructure-based Technology for the Prevention of Rear-end Collisions*, Special Investigation Report NTSB/SIR-01/01 (Washington, DC: NTSB, 2001).

Since the issuance of this recommendation, the Safety Board has learned that the ATA and the OOIDA, with the American Transportation Research Institute, have been working cooperatively to provide information to their members on advances in on-board truck technologies, including proper usage of such systems. The Safety Board further notes that the ATA and a few of its members are working with the FMCSA to encourage motor carriers to adopt these technologies and to train their drivers appropriately. Safety Recommendation H-01-16 has been classified "Closed—Acceptable Action" for the ATA and the OOIDA, and it is currently classified "Open—Acceptable Response" for the NPTC. The Safety Board encourages the FMCSA to use these developments in its efforts to expedite deployment into the marketplace of on-board safety technologies, such as collision warning, lane departure warning, and stability control systems,[8] and to expose new entrants to, and inform them about, these safety technologies through its new training standards. Not only would this help to ensure that new drivers use these systems properly, but also it would provide them with expanded awareness of and familiarity with these systems, all of which may encourage the acceptance of these beneficial technologies throughout the general driver population.

Finally, the Safety Board notes that the proposed rulemaking provides a 3-year implementation timetable. The Board understands that the States and industry will require some time to implement the new training program; however, given that the rulemaking itself will most likely take some years to complete, the FMCSA can concomitantly use this time to prepare the States and industry for the changes they will need to make once the final rule is enacted. The Safety Board urges the FMCSA to explore this and other options to accommodate a shorter implementation timetable so that new entry-level commercial motor vehicle operators and the traveling public may benefit from this training program.

The Safety Board appreciates this opportunity to comment on the FMCSA's proposed standards for new entrant training.

Sincerely,

Mark V. Rosenker
Chairman

[8] Federal Motor Carrier Safety Administration, *Incentives for Deployment of Onboard Safety Systems Final Report*, FMCSA-RRT-07-031 (Washington, DC: FMCSA, 2007).