

April 6, 2009

Ms. Cynthia Douglass
Acting Administrator
Pipeline and Hazardous Materials
Safety Administration
1200 New Jersey Avenue, S.E.
East Building, 2nd Floor, PH
Washington, D.C. 20590

Dear Ms. Douglass:

Thank you for the October 2 and December 4, 2008, letters from Mr. Rick Kowalewski, Assistant Administrator/Chief Safety Officer, concerning Safety Recommendation P-99-12, stated below. The National Transportation Safety Board issued this recommendation to the Pipeline and Hazardous Materials Safety Administration (PHMSA) as a result of the Safety Board's 1999 report, *Evaluation of U.S. Department of Transportation Efforts in the 1990s to Address Operator Fatigue*. This recommendation is on the Board's list of Most Wanted Transportation Safety Improvements.

P-99-12

Establish within 2 years scientifically based hours-of-service [HOS] regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements.

The Safety Board has reviewed PHMSA's October and December updates, as well as the notice of proposed rulemaking (NPRM) published at 73 *Federal Register* 53076 on September 12, 2008, to address human factors and other components of control room management. On December 23, 2008, the Board submitted comments on the NPRM. Although the proposed rule requires that operators provide controllers an opportunity for 8 hours of continuous sleep, the Board believes that the sections of the proposed regulation that address fatigue should be strengthened to include additional instruction vital for establishing safe and effective work and rest schedules.

In 2005, PHMSA issued an advisory bulletin titled "Pipeline Safety: Countermeasures to Prevent Human Fatigue in the Control Room" (ADB-05-06), which was designed to provide guidance to pipeline operators on factors that can affect controller fatigue and ensure that controllers are not assigned to duties while fatigued. The advisory bulletin advised operators to (1) limit work schedules to no more than 12 hours in any 24-hour period, (2) develop procedures to manage unusual circumstances in which a controller must work more than 12 hours in a 24-hour period, (3) schedule at least a 10-hour break between work periods, and (4) develop shift rotation practices to minimize fatigue caused by the disruption of normal sleep patterns.

In the September 12, 2008, NPRM, PHMSA proposes that each operator implement methods to prevent controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities defined by the operator. The proposed rules are similarly described in the sections discussing the transportation of natural gas (49 *Code of Federal Regulations* [CFR] 192.7(d)) and hazardous liquids (49 CFR 195.3(d)), and liquefied natural gas facilities (49 CFR 193.2523(d)). Under the heading *fatigue mitigation*, PHMSA discusses specific actions to be taken by operators, including (1) establishing shift lengths and schedule rotations that provide controllers off-duty time sufficient to acquire 8 hours of continuous sleep; (2) educating a controller and his supervisor in fatigue mitigation strategies and ways in which off-duty activities contribute to fatigue; (3) training a controller and his supervisor to recognize and mitigate the effects of fatigue; (4) implementing additional measures to monitor for fatigue when a single controller is on duty; and (5) establishing a maximum limit on controller HOS, which may include an exception during an emergency, with appropriate management approval.

The Safety Board commends PHMSA for the efforts it has taken to address controller fatigue both through Advisory Bulletin ADB-05-06 and through this NPRM. The Board is particularly pleased by PHMSA's proposed rule requiring that operators provide controllers an opportunity for 8 hours of continuous sleep. However, the Board strongly encourages PHMSA to include in the final rule additional instruction vital in establishing safe and effective work and rest schedules. Specifically, the Board believes that the rule should include language that emphasizes the importance to operators of these facilities of incorporating fatigue research, circadian rhythms, and sleep and rest requirements when establishing a maximum limit on controller shift length, maximum limit on controller HOS, and schedule rotations.

In addition, the Safety Board notes that requiring operators to design their own plans to address controller fatigue is not the same as establishing scientifically based HOS regulations. Rather, it is consistent with an approach that has been referred to as "fatigue management systems" or "fatigue risk management systems." Such systems commonly incorporate various strategies to manage fatigue such as scheduling policies and practices, attendance policies, education, medical screening and treatment, personal responsibility during nonworking periods, task/workload issues, rest environments, and commuting policies. Such systems also typically incorporate a plan for implementing, supervising, and evaluating the success of the system. The Board has stated that fatigue management systems appear to hold promise as a progressive approach to addressing problems associated with fatigue but has also noted that regulatory refinement and ongoing oversight are necessary to ensure that such systems will result in the intended outcomes.

Finally, PHMSA has stated that its rule is performance based, in that it describes the necessary elements and outcomes that operators must accomplish but does not prescribe exactly how operators must incorporate each element. In light of PHMSA's non-prescriptive approach with respect to fatigue management, the Safety Board would like PHMSA to provide additional information about its criteria for evaluating operators' plans and ways in which PHMSA intends to monitor the effectiveness of operators' implementations of those plans. Establishing clear evaluation criteria for the plans and their outcomes will not only improve the likelihood that operators will design effective plans but is also likely to improve the success of those programs.

Accordingly, pending publication of the final rules with the above-described changes, Safety Recommendation P-99-12 is classified “Open—Acceptable Response.”

Thank you for your commitment to pipeline safety. We would appreciate receiving periodic updates on these initiatives as they near completion.

Sincerely,

Original Signed By:

Mark V. Rosenker
Acting Chairman

cc: Ms. Linda Lawson, Director
Office of Safety, Energy, and Environment
Office of Transportation Policy