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Ms. Renee Bridgers, Docket Clerk
U.S. Department of Transportation
Federal Railroad Administration
Office of Chief Counsel
Mail Stop #10
1120 Vermont Avenue, N.W.
Washington, D.C. 20590

Re: Docket Nos. FRA-1999-6439 and FRA-1999-6440

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Dear Docket Clerk:

The Brotherhood of Locomotive Engineers (BLE) is the certified collective bargaining representative for locomotive engineers on all Class I railroads in the United States and Canada and on numerous Class II and Class III railroads. BLE members have operated locomotives since 1863. Crossing collisions have been an integral part of our experience for nearly a century. According to the safety study titled: Safety at Passive Grade Crossings, Volume 1: Analysis, issued by the National Transportation Safety Board, accidents involving automobiles at railroad crossings occurred as early as 1907. The locomotive horn has been an essential tool in the open operating environment of railroads. It is apparent to all that — among these requirements — locomotive horns are used to warn persons along the right-of-way, including motorists, at the thousands of public and private crossings across the United States.

The foundation for operating rule requirements governing the use of locomotive horns is obvious, but it remains important to state that not only the public safety, but also that of our fellow employees and ourselves, are at risk when highway-rail and right-of-way collisions occur. Further, it is our thoughts, our dreams/nightmares, our families and our psyches that are disrupted when the operator of a motor vehicle does not stop, look, and listen for our approaching train. Each vehicle struck by a train is an **avoidable** casualty, albeit one that occurs every two hours across this land. For every incident there also is a train crew experiencing it, perhaps with less severe physical consequences than for motorists; but; our lives are changed forever nonetheless. Accordingly, BLE has a profound and vital interest in FRA's proposal on the use of locomotive horns.

Our approach to the proposed rule has been to take each section and, where comment is requested, offer it from our unique perspective. The BLE Perspective is grounded in the reality that locomotive engineers are exposed to the risk associated with every collision at every crossing and along the right-of-way over which trains operate. Given this exposure, as well as the possibility of unforeseen consequences in the development of quiet zones (QZs), BLE will keep a careful watch on the impact of this rule.

Should circumstances warrant — such as: increases in the number of collisions; more profound impact on the operational safety of the railroad; increased litigation associated with crossing and right-of-way incidents; or more frequent incidents of Post Traumatic Stress Disorder (PTSD) suffered by crews on locomotives — BLE expects timely action to fill the safety void. Within this context, BLE will work with FRA, the railroad industry and communities impacted by rail traffic to make those communities both quieter and safer.

BLE will offer specific comment in the order set forth in FRA's section-by-section analysis.

§229.129 Audible warning device

The establishment of a maximum sound level for the locomotive horn is a welcome addition in this proposal. It not only is important to prescribe the standard, but also to enforce the standard throughout the life cycle of the locomotive. Initial testing of a newly-manufactured locomotive and its horn will no doubt establish that the standard has been met; but it is necessary that sound levels be maintained via regular testing. Traditional air horns can be affected in many ways by changes in the piping and valve systems. The chimes on a locomotive horn can become obstructed and, occasionally, complete horn failure can occur. Provisions should be made in the regulations similar to those in the railroads' operating rules for procedures to address complete horn failure. Locomotive engineers should not be held liable for locomotive horn failures encountered en route. The provisions of §229.9 must be reviewed to determine whether they adequately address the safety of operating a locomotive with a defective horn.

In the discussion of the sound level requirements, FRA offers two options and a "concept." Both options would establish a minimum sound level of 96 dB(A) with no margin of error, and would require compliance with a specified maximum level. Under the first option, the maximum level would be 104 dB(A). The second option would set the horn maximum at 111 dB(A). The third "concept" is to provide a variable horn level which would have a low range of 96-104 dB(A) and a high range of 104-111 dB(A). In discussing these proposals, FRA indicates that it "will be conducting an environmental assessment in parallel with this rulemaking and utilizing the results of that effort in preparing a final rule."

BLE proposes that FRA also measure sound levels in the locomotive cab with windows open during those assessments to determine maximum sound levels inside the cab. The requirements for directionality (sound levels at 90 degrees and 100 feet from the center of the locomotive are not to exceed the established value for 100 feet in front of the locomotive) will no doubt reverse an "engineering change" that has brought relief to occupants of the locomotive cab from noise exposure. Moving the horn closer to the front of the locomotive will likely increase noise exposure in an already noisy environment. FRA needs to determine if, in fact, this probable engineering change further exacerbates high noise levels in the cab. FRA has stated that it does not expect locomotive crew exposure to be a limiting factor in the rule, apparently in the belief that noise exposure on present day locomotives is within acceptable limits. New locomotives have cabs that are quieter; unfortunately, however, there remain a large number of older locomotives in service. Many are not equipped with air conditioning and, thus, require a locomotive engineer to operate the train with the windows open during warmer weather. The horn is the loudest noise source on most locomotives.

BLE supports the variable sound level option. The opportunity to use a locomotive horn at a lower volume of sound for crossings having an active warning system, or ones that are seldom used during

nighttime hours, definitely can reduce noise impact in our communities and in locomotive cabs. BLE acknowledges FRA's statement that

> "concern that this could place an additional burden on the locomotive engineer and that sounding the horn in this pattern would not be feasible where crossings are closely spaced and are not uniformly treated with automated warning devices. Accordingly, at a minimum simplified procedures requiring the engineer to take the safe course would be required in these circumstances."

BLE anticipates that this discretional use of a variable horn could result in possible problems for railroads and locomotive engineers. We recognize that developing technology for event recorders may provide evidence whether a horn was sounded, provided the horn was sounded in the high decibel range; however, event recorder data is not reliable, because it may not indicate horn sounding in the muted range.

The activation of the horn occurs through either an electric solenoid or an air pressure switch. The transmission of the horn's activity can be affected by transistor problems and the degree of force applied to the handle that operates the horn. Should the locomotive engineer operate a horn at a low or muted volume, the resulting event recorder data could indicate no horn use at all. There also are problems determining from the data found on event recorders the exact location of the locomotive at the time the horn was sounded. BLE proposes that if horn data becomes a required element for event recorders — or if non-required horn data is to be used for any purpose — the recording must be generated at the activation switch, horn button, or valve lever to properly indicate its actual use by the locomotive engineer in any and all sound ranges.

With respect to directionality, BLE points out that a front-mounted horn with a barrier behind it would provide some protection to cab occupants from high noise levels. This could, however, create problems meeting sound level requirements if the locomotive is operated over crossings in the reverse direction. Consideration might be given to utilizing two separate horn arrays (tied to the reverse control) mounted on the roof structure at each end of the locomotive.

§222.3 Application

It is important to note that private crossings may carry heavy volumes of truck traffic and the QZ approval process must recognize that all private crossings are not alike. With this in mind, where quasi-public traffic may use a private crossing, or where traffic using a private crossing has the potential to cause a catastrophic event, such as the collision at Portage, Indiana, the owner of the crossing should be required to install and maintain advance warning signs for the QZ. With this caveat, BLE agrees that private crossings should be exempt from the requirements of the rule, subject to provisions for QZs, and permit the railroads or state law to determine the need, if any, for sounding the horn at these crossings.

§222.21 When to use locomotive horns

FRA has solicited comment on the proper length of time and under what circumstances locomotive horns should be sounded. An issue not discussed in the NPRM, but a situation found in many communities, is that of multiple crossings along a relatively short length of track. Railroad operating

rules for multiple crossings generally provide for multiple whistle boards or a single whistle board with a numerical designation indicating the number of crossings for which the standard crossing signal is to be sounded. A train moving at authorized track speed generally has no problem providing sufficient warning with limited noise impact. A train moving through this multiple crossing area at a low rate of speed, however, can cause a significant noise impact. BLE believes that these are the very areas contemplated for designation as QZs and likely will become so designated. Consideration should be given to crossing closures in multiple crossing areas before implementing QZs, especially ones that rely exclusively on Alternative Safety Measures.

Additionally, for all crossings, when a train is moving at a very low speed, FRA should consider language to provide that no more than the twenty (20) to twenty-four (24) seconds of warning is required, regardless of the distance from the crossing the locomotive is when the warning begins. Most railroad operating rules require the sounding of train horns not less than ¼ mile before reaching a crossing if that distance is sufficient to provide warning; otherwise, the horn must be sounded at a distance to provide adequate warning. They further state that the horn signal must be "prolonged or repeated . . . until engine occupies the crossing." This language has been interpreted by some to mean that the horn must be sounded continuously or repeatedly until the crossing is occupied, regardless of the speed of the train.

Through efficiency testing and subsequent discipline, some in railroad management have emphasized the practice of continuous or repeated sounding of the horn in this manner. In some cases, locomotive engineers have relied on the horn sequencer switch to satisfy the requirement of the rule. The result has been far more noise than necessary to provide adequate warning. A train moving at sixty miles per hour (mph) will travel ¼ mile in 15 seconds, a train moving at 30 mph will travel ¼ mile in 30 seconds, and one moving at 10 mph will take 90 seconds to reach the crossing. The noise impact of the locomotive horn obviously is much greater when the train is moving at a low rate of speed.

Some flexibility should be provided in the regulation for trains that are moving at a speed significantly lower than the maximum authorized speed for that track, and for which the whistle post is located ¼ mile in advance of a crossing. The 24-second maximum should apply to all crossings. An experienced locomotive engineer can estimate with reasonable accuracy the time required for sounding the horn before their train occupies the crossing at any given speed. However, given the imprecision inherent in such estimating, locomotive engineers should be provided a modicum of leeway, because of the potential negative disciplinary and/or certification consequences flowing from a *per* se violation of the regulation.

§222.23 Emergency and other uses of locomotive horns

BLE is in complete agreement with the provisions of this section. It is important to establish that locomotive engineers may not always be aware of the existence of an emergency situation. Visibility factors, attention to other duties, the dynamic nature of the open railroad environment or the mere exercise of discretion do not always provide the basis for an "easy" determination of when a situation may constitute an emergency. Not imposing a legal duty to sound the horn in a QZ for a situation that cannot be ascertained as an emergency is the only appropriate course to follow. Certainly, locomotive engineers do all they can to avoid harming the public, the railroad's or shipper's property, fellow crew members or themselves.

§222.31 Train operations which do not require sounding of horns at individual crossings

Crossings included for consideration in this section must be carefully selected. The assumption that a slow-moving locomotive or less frequent train movements will result in a diminished safety risk must be supported by substantial, relevant data. Persons who do not have a high safety awareness regarding dangers at crossings may be even more inattentive at infrequently used crossings.

§222.33 Establishment of quiet zones — Methods of establishing a quiet zone

BLE agrees that there are circumstances that warrant the establishment of quiet zones. We concur with the suggested methodology for QZ designation as provided in §222.33(a), where every Supplementary Safety Measure (SSM) has been determined by FRA to have an equivalent effect as a locomotive horn. The method provided for in §222.33(b) would permit a governmental entity to establish a QZ using SSMs or "other types of safety measures;" i.e., an alternative safety measure (ASM).

BLE is not convinced that the alternative allowance for an evaluation of a "level of time and effort expended by the community" on "[s]uch measures includ[ing] public safety education and increased law enforcement programs" ever can provide the equivalent safety effect of locomotive horns. Public crossings also are traversed by persons from outside a community. Community education and local awareness programs regarding establishment of a QZ may be unknown to non-residents, or to those new to the conditions of a QZ.

In the provisions for "programmed enforcement," the proposed rule offers two methods of monitoring for effectiveness. One entails the use of enforcement via photographic surveillance; the other is a systematic manual monitoring process. The details of that "systematic process" are not clearly defined. BLE believes validity of the data should drive the process; there are many variables that can skew the results of a study. There must be consistency in gathering the data during all phases: baseline; two full calendar quarters; semi-annual; and verification of effectiveness.

BLE also believes that all designations and applications under § 222.33 should include a state agency in the process, and not a municipality, alone. The filtering of applications would benefit all parties and provide for standardized criteria and common resources. This approach would enhance the probability that the establishment of a QZ was based on responsible oversight by local and state governments and by FRA. The subjective nature of determining if an ASM provides an equivalent level of safety to the locomotive horn will prove to be a challenging task. The more expertise engaged in the process the better the decision-making that will follow.

§222.37 Quiet zone implementation

BLE believes that the language providing for 14-day notification of the establishment of a QZ to interested parties (railroads and their employees among them) is insufficient. Railroad employees who have been absent from work, on vacation, or who do not frequently operate over a track that includes a QZ may not receive notification on a timely basis. As an alternative, the rule should require that a railroad has an affirmative duty to notify each employee, via the usual means of communications, of the establishment of a QZ.

§222.39 Quiet zone duration

FRA solicits comment on a three-year requirement versus a five-year requirement for affirming the effectiveness of a QZ under provisions of §222.33(b). BLE supports the three-year approach, and also FRA's statement that local circumstances and local efforts may mandate a more frequent review. BLE believes that the authority in §222.39(d) that FRA's Associate Administrator for Safety may review the status of a QZ at any time is an indispensable provision. The authority to terminate a QZ, if the conditions warrant, fulfills FRA's role of providing for public and railroad employee safety, while the interests of the affected community are safeguarded.

§222.41 Supplementary and alternative safety measures

BLE reserves comment on the specific supplementary safety measures listed in Appendices A and B until those measures have been adequately studied and tested, and sufficient data exists to support or reject a particular measure. Section 222.41 is otherwise acceptable, provided the language stating that "[t]hese measures, based on the best available data, have been determined by FRA to be an effective substitute for the locomotive horn in the prevention of highway-rail casualties" is not interpreted or applied so as to provide an unlimited franchise to include any SSM or ASM in the Appendix based on a very limited assessment. The evaluation of a SSM on a small number of crossings may not represent the total exposure to risk for all crossings. Obviously, a SSM that provides an absolute barrier may prove to be acceptable without the necessity for a broad study. Those based on a less certain method will need an unbiased and thorough analysis generated from a broad spectrum of crossings. The evaluation of a SSM should account for differences in crossing characteristics. Those differences should include, at a minimum: geographic location; motor vehicle traffic patterns; crossing history; train activity; and driver behavior.

For example, BLE does not believe the present evaluation of the wayside horn is sufficient to justify its immediate inclusion as a supplementary safety measure. The comprehensive evaluation of the system installed in Gering, Nebraska, and presented in the 1998 report entitled Field Evaluation of a Wayside Horn at a Highway-Railroad Grade Crossing is an excellent study and contains useful information. It does, however, reflect the experience of only two crossings in a single community. The crossings involved, and the situation surrounding the test project, have not been demonstrated to be typical of other crossings and communities where the wayside horn may be installed. Additional locations where they have been placed — Ames, Iowa; Parsons, Kansas; and Bailey Street in Wichita, Kansas — may provide additional data for further evaluation. BLE recommends that additional studies be conducted in areas where gate violations are a frequent occurrence and pose a genuine risk to the public and to locomotive crew members.

§222.43 Development and approval of new supplementary safety measures

BLE supports FRA's imposing conditions or limitations on orders to not sound the horn for test purposes issued under this section. We recommend that the SSM being tested give consideration to the perspective of crew members in the locomotive cab. The rule should require that the train's crew receive a written addition that testing is being conducted. Moreover, a means should be afforded for the crew to provide feedback on the efficacy of the SSM being tested.

§222.45 Communities with pre-existing restrictions on use of locomotive horns

BLE recognizes and appreciates the hard work and sincerity the communities and FRA have devoted to the preliminary projects. The exemption of the provisions for validating the efficacy of the measures as provided in §222.39(b) may create problems if measures taken in one area are proven to have failed in another. BLE believes that it would be a mistake to underestimate the ingenuity and boldness of those who today willfully violate warning signs, gates and the law, risking property damage, personal injury and, ultimately, their lives, merely to arrive at their destination a bit more quickly. Therefore, BLE requests that the rule explicitly state that the provisions for termination of a QZ, if the conditions warrant as provided in §222.39(d), apply to these "grandfathered" crossings as well.

Appendices A and B
Appendix A — Supplemental Safety Measures

As a general matter, what has been stated above also must be said for all the Supplemental Safety Measures and Alternative Safety Measures offered in the Appendices. No system, regardless of how much engineering goes into it, will provide a level of safety equivalent to a locomotive horn if the system is unreliable or inoperative. The integrity of a SSM must be checked frequently. Designs that have frequent failure rates or ones that are easily defeated must be supplemented with increased law enforcement, to bring a high level of protection to the public and to locomotive crews.

While BLE will address the specifics of each of the proposed SSMs as we learn more about them, there is one specific SSM about which we wish to comment preliminarily. The discussion of enforcement by photographic surveillance did not mention locomotive-mounted cameras. BLE is not aware of any intended use of such equipment for photographic surveillance. However, we wish to caution that any such evidence-gathering device is likely to become a target for vandals. Placing it on the locomotive could endanger both property and locomotive crew members; accordingly, BLE would oppose the use of locomotive-mounted photographic surveillance equipment.

Appendix B — Alternative Safety Measures
Wayside horns

Several issues, in addition to those discussed in the comment above, are involved with utilization of wayside horns that are activated by an approaching train. A key safety feature of the locomotive horn is the fact that the Doppler effect of the horn's sound indicates the direction of the train's approach. This element is absent in the wayside horn. Another concern is the possible diminution of the wayside horn's effectiveness over time. We know that many motorists ignore signs, bells and lights, and go around gates for a variety of reasons, not the least of which is a presumed familiarity on the motorist's part with the time between the beginning of these signals and the actual arrival of a train. Will the wayside horns come to be viewed over time in this same way by such motorists? Will these motorists come to ignore this safety device, too? Wayside horns also introduce the added problem of always having a noise impact in the vicinity of the crossing. Finally, the issue of false activation of the wayside horn should be addressed before consideration is given to using them.

Supplemental comments
Positive Train Control

The use of the term "positive train control" (PTC) was introduced during the discussion of "whistle boards." It would appear that this terminology is being used in a broad context for any automatic train horn activation or signaling to the locomotive engineer. According to FRA, the PTC "should ensure that the horn is sounded not less than 20, nor more than 24 seconds before the locomotive enters the grade crossing." BLE cautions that PTC and its associated application for crossing protection are not yet defined. There are a number of concepts and some products that have emerged, but the cost and the associated communication and locomotive interfaces have not been determined.

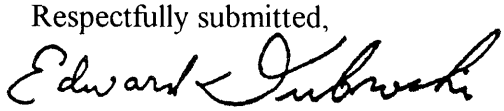
PTC may hold promise in terms of crossing protection, train prediction, horn activation or crossing integrity at some point in the future, but it should not be included on the list of supplemental safety measures until PTC is well-defined, thoroughly tested and has been deployed. When PTC is deployed it is imperative that we recognize the nature of the open railroad environment and the need for manual horn operation, regardless of technological development at the wayside or on-board the locomotive.

Post Traumatic Stress Disorder

Instances of trauma and Post Traumatic Stress Disorder experienced by train crew members involved in highway-rail incidents are likely to increase significantly if supplemental and alternative safety measures fail to perform as expected. Locomotive Engineers have little, if any, control over the behavior of trespassers and motorists and, similarly, a very slight chance of avoiding a collision by bringing a train to a stop. This sense of helplessness will increase if ASMs fail to produce the intended results.

BLE reserves the right to amend our comments as we gain a more thorough understanding of the rule, and as various supplemental safety measures and alternative safety measures are developed, studied and tested.

Respectfully submitted,



President