

THE “TRAIN HORN” FINAL RULE

Summary

1. Overview:

- The Final Rule on Use of Locomotive Horns at Highway-Rail Grade Crossings, published in the *Federal Register* on April 27, 2005, is intended to:
 - ⇒ Maintain a high level of public safety;
 - ⇒ Respond to the varied concerns of many communities that have sought relief from unwanted horn noise; and
 - ⇒ Take into consideration the interests of localities with *existing* whistle bans.
- Currently, state laws and railroad operating rules govern use of the horn at highway-rail grade crossings. When this rule takes effect, it will determine when the horn is sounded at public crossings (and private crossings within “quiet zones”).
- This Final Rule was mandated by law¹, and was issued by the Federal Railroad Administration (FRA) after consideration of almost 1,400 public comments on the Interim Final Rule (IFR) (68 FR 70586) published December 18, 2003.
- Consistent with the statutory mandate requiring its issuance, the rule requires that locomotive horns be sounded at public highway-rail grade crossings, but provides several exceptions to that requirement.²
- Local public authorities may designate or request approval of, quiet zones in which train horns may not be routinely sounded. The details for establishment of quiet zones differ depending on the type of quiet zone to be created (Pre-Rule or New) and the type of safety improvements implemented (if required).
- Horns may continue to be silenced at Pre-Rule Quiet Zones, provided certain actions are taken.
- Intermediate Quiet Zones (whistle bans that were implemented after October 9, 1996 but before December 18, 2003) may continue to have the horns silenced for one year (until June 24, 2006), provided certain actions are taken. After which time they must comply with the provisions for a New Quiet Zone if the horns are to remain silent.

¹49 U.S.C. 20153.

- The rule goes into effect on June 24, 2005.
- Pre-Rule Quiet Zones in the six county Chicago region are excepted from the provisions of this rule pending further evaluation of the data.

2. Requirement to sound the locomotive horn:

- Outside of quiet zones, railroads must sound the horn 15-20 seconds prior to a train's arrival at the highway-rail grade crossing, but not more than 1/4 mile in advance of the crossing.

Note: Most State laws and railroad rules currently require that the horn be sounded beginning at a point 1/4 mile in advance of the highway-rail grade crossing and continued until the crossing is occupied by the locomotive. Under the rule, for trains running at less than 45 mph, this will reduce the time and distance over which the horn is sounded. This will reduce noise impacts on local communities.

- The pattern for sounding the horn will remain, as it currently exists today (two long, one short, one long repeated or prolonged until the locomotive occupies the highway-rail grade crossing).
- Locomotive engineers may vary this pattern as necessary where highway-rail grade crossings are closely spaced; and they will also be empowered (but not required) to sound the horn in the case of an emergency, even in a quiet zone.
- The rule addresses use of the horn only with respect to highway-rail grade crossings. Railroads remain free to use the horn for other purposes as prescribed in railroad operating rules on file with FRA, and railroads must use the horn as specified in other FRA regulations (in support of roadway worker safety and in the case of malfunctions of highway-rail grade crossing active warning devices).
- The rule prescribes both a minimum and *maximum* volume level for the train horn. The minimum level is retained at 96 dB(A), and the new maximum will be 110 dB(A). This range will permit railroads to address safety needs in their operating territory (see discussion in the preamble).
- The protocol for testing the locomotive horn will be altered to place the sound-level meter at a height of 15 feet above top of rail, rather than the current 4 feet above the top of the rail. Cab-mounted and low-mounted horns will continue to have the sound-level meter placed 4 feet above the top of the rail.

Note: The effect of this change will be to permit center-mounted horns to be “turned down” in some cases. The previous test method was influenced by the “shadow

effect” created by the body of the locomotive to indicate a lower sound level than would otherwise be expected several hundred feet in front of the locomotive (where the crossing and approaching motorists are located).

- The effect of these changes will reduce noise impacts for 3.4 million of the 9.3 million people currently affected by train horn noise.

3. Creation of quiet zones:

- The rule provides significant flexibility to communities to create quiet zones, both where there are existing whistle bans and in other communities that heretofore have had no opportunity to do so.
- The Final Rule permits implementation of quiet zones in low-risk locales without requiring the addition of safety improvements.
 - ✓ This concept utilizes a risk index approach that estimates expected safety outcomes (that is, the likelihood of a fatal or non-fatal casualty resulting from a collision at a highway-rail crossing).
 - ✓ Risk may be averaged over crossings in a proposed quiet zone.
 - ✓ Average risk within the proposed quiet zone is then compared with the average nationwide risk at gated crossings where the horn is sounded (the “National Significant Risk Threshold” or “NSRT”). FRA will compute the NSRT annually.

The effect of this approach is that horns can remain silenced in over half of Pre-Rule Quiet Zones without significant expense; and many New Quiet Zones can be created without significant expense where flashing lights and gates are already in place at the highway-rail grade crossings.

- If the risk index for a proposed New Quiet Zone exceeds the NSRT, then supplementary or alternative safety measures must be used to reduce that risk (to fully compensate for the absence of the train horn or to reduce risk below the NSRT).
- The Final Rule—
 - ✓ Retains engineering solutions known as “supplementary safety measures” for use without FRA approval.
 - ✓ Retains explicit flexibility for the modification of “supplementary safety measures” to receive credit as “alternative safety measures.” For instance,

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shorter traffic channelization arrangements can be used with reasonable effectiveness estimates.

- ✓ Adds a provision that provides risk reduction credit for pre-existing SSMs and pre-existing modified SSMs that were implemented prior to December 18, 2003.
 - ✓ Continues education and enforcement options, including photo enforcement, subject to verification of effectiveness.³
- The public authority responsible for traffic control or law enforcement at the highway-rail grade crossing is the only entity that can designate or apply for quiet zone status.
 - FRA will provide a web-based tool for communities to use in performing “what if” calculations and preparing submissions necessary to create or retain quiet zones. The tool may be found at <http://www.fra.dot.gov>.
 - In order to ensure proper application of the risk index, the National Highway-Rail Crossing Inventory must be accurate and complete. In the absence of timely filings to the Inventory by the States or Railroads, local authorities may file updated inventory information, and railroads must cooperate in providing railroad-specific data.
 - FRA regional personnel will be available to participate in diagnostic teams evaluating options for quiet zones.
 - Once a quiet zone is established (including the continuation of Pre-Rule or Intermediate Quiet Zones pending any required improvements), the railroad is barred from routine sounding of the horn at the affected highway-rail grade crossings.
 - See below for discussion of **Pre-Rule Quiet Zones** and **New Quiet Zones**.

³The rule neither approves nor excludes the possibility of relying upon regional education and enforcement programs with alternative verification strategies. FRA is providing funding in support of an Illinois Commerce Commission-sponsored regional program. The law provides authority for use of new techniques when they have been demonstrated to be effective.

Horns may continue to be silenced at Pre-Rule Quiet Zones if–

- ⇒ The average risk at the crossings is less than the NSRT; or
- ⇒ The average risk is less than twice the NSRT and no relevant collisions have occurred within the past 5 years; or
- ⇒ The community undertakes actions to compensate for lack of the train horn as a warning device (or at least to reduce average risk to below the NSRT).

Train horns will not sound in existing whistle ban areas if authorities state their intention to maintain “Pre-Rule Quiet Zones” and do whatever is required (see above) within **5 years** of the effective date (June 24, 2005) (**8 years** if the State agency provides at least some assistance to communities in that State).

A “Pre-Rule Quiet Zone” is a quiet zone that contains one or more consecutive grade crossings subject to a whistle ban that has been actively enforced or observed as of October 9, 1996 and December 18, 2003.

To secure Pre-Rule Quiet Zone status, communities must provide proper notification to FRA and other affected parties by June 3, 2005 and file a plan with FRA by June 24, 2008 (if improvements are required).

New Quiet Zones may be created if–

All public highway-rail grade crossings are equipped with flashing lights and gates; and either–

- ✓ After adjusting for excess risk created by silencing the train horn, the average risk at the crossings is less than the NSRT; or
- ✓ Supplemental Safety Measures are present at each public crossing; or
- ✓ Safety improvements are made that compensate for loss of the train horn as a warning device (or at least to reduce average risk to below the NSRT).

Detailed instructions for establishing or requesting recognition of a quiet zone are provided in the regulation.

4. Length of quiet zones:

- Generally, a quiet zone must be at least ½ mile in length and may include one or more highway-rail grade crossings.
- Pre-Rule Quiet Zones may be retained at the length that existed as of October 9, 1996, even if less than ½ mile. A Pre-Rule Quiet Zone that is greater than ½ mile may be reduced in length to no less than ½ mile and retain its pre-rule status. However, if its length is increased from pre-rule length by the addition of highway-rail grade crossings that are not pre-rule quiet zone crossings, pre-rule status will not be retained.

5. Supplementary and alternative safety measures:

- Supplementary safety measures are engineering improvements that clearly compensate for the absence of the train horn. If employed at every highway-rail grade crossing in the quiet zone, they automatically qualify the quiet zone (subject to reporting requirements). They also may be used to reduce the average risk in the corridor in order to fully compensate for the lack of a train or to below the NSRT.
 - ✓ Temporary closure used with a partial zone;
 - ✓ Permanent closure of a highway-rail grade crossing;
 - ✓ Four-quadrant gates;

- ✓ Gates with traffic channelization arrangements (i.e., non-mountable curb or mountable curb with delineators) at least 100 feet in length on each side the crossing (60 ft. where there is an intersecting roadway);
 - ✓ One-way Street with gate across the roadway.
- Alternative safety measures may be applied such that the combination of measures at one or more highway-rail grade crossings reduces the average risk by the required amount across the quiet zone (so-called “corridor approach”).
 - ✓ Any modified supplementary safety measure (e.g., barrier gate and median; shorter channelization); or
 - ✓ Education and/or enforcement programs (including photo enforcement) with verification of effectiveness; or
 - ✓ Engineering improvements, other than modified SSMs; or
 - ✓ Combination of the above.
- The rule provides that pre-existing SSMs and pre-existing modified SSMs will be counted towards risk reduction.

6. Recognition of the automated wayside horn:

- The rule authorizes use of the automated wayside horn at any highway-rail grade crossing with flashing lights and gates (inside or outside a quiet zone) as a one-to-one substitute for the train horn.
- Certain technical requirements apply, consistent with the successful demonstrations of this technology.
- The Federal Highway Administration (FHWA) has issued an interim approval for the use of wayside horns as traffic control devices. Communities interested in employing this option should contact FHWA to ensure that they comply with the provisions of the interim approval.

7. Special circumstances:

- A community or railroad that views the provisions of the rule inapplicable to local circumstances may request a waiver from the rule from FRA.
- A railroad or community seeking a waiver must first consult with the other party and seek agreement on the form of relief. If agreement cannot be achieved the party may still request the relief by a waiver, provided the FRA Associate Administrator determines that a joint waiver petition would not be likely to contribute significantly to public safety.

- FRA grants waivers if in the public interest and consistent with the safety of highway and railroad users of the highway-rail grade crossings.

8. Summary of major changes to the Interim Final Rule

- The final rule provides a one-year grace period to comply with New Quiet Zone standards for communities with pre-existing whistle bans that were in effect on December 18, 2003, but were adopted after October 9, 1996. These communities are considered “Intermediate” Quiet Zones under the final rule.
- The final rule addresses quiet zones that prohibit sounding of horns during the evening and/or nighttime hours. These are referred to as Partial Quiet Zones.
- The final rule requires diagnostic team reviews of pedestrian crossings that are located within proposed New Quiet Zones and New Partial Quiet Zones.
- The final rule requires quiet zone communities to retain automatic bells at public highway-rail grade crossings that are subject to pedestrian traffic.
- The final rule extends “recognized State agency” status to State agencies that wish to participate in the quiet zone development process.
- The final rule contains a 60-day comment period on quiet zone applications.
- The final rule requires public authorities to provide notification of their intent to create a New Quiet Zone. During the 60-day period after the Notice of Intent is mailed, comments may be submitted to the public authority.
- The final rule provides quiet zone risk reduction credit for certain *pre-existing* SSMs.
- The final rule provides quiet zone risk reduction credit for *pre-existing* modified SSMs.
- The final rule contains a new category of ASMs that addresses engineering improvements other than modified SSMs.

Additional information, including the full text of the Final Rule, the Final Environmental Impact Statement, and background documents, are available at <http://www.fra.dot.gov>.

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