

gated crossings. (New Quiet Zones within the Chicago Region will reflect an increased risk index of 17.3 percent.) The initial Quiet Zone Risk Index is then calculated by averaging the increased risk index for each public crossing within the proposed quiet zone. At this point the Quiet Zone Risk Index will equal the Risk Index with Horns multiplied by 1.668.

5. Compare the Quiet Zone Risk Index to the Nationwide Significant Risk Threshold. If the Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold, then the public authority may decide to designate a quiet zone and proceed with the notification process. With this approach, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk Index. If the Quiet Zone Risk Index for the quiet zone is above the Nationwide Significant Risk Threshold, FRA will notify the Public Authority so that appropriate measures can be taken. (See § 222.51(a).)

6. If the Quiet Zone Risk Index is greater than the Nationwide Significant Risk Threshold, then select an appropriate SSM for a crossing. Reduce the inflated risk index calculated in Step 4 for that crossing by the effectiveness rate of the chosen SSM. (See appendix A for the effectiveness rates for the various SSMs.) Recalculate the Quiet Zone Risk Index by averaging the revised inflated risk index with the inflated risk indices for the other public crossings. If this new Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold, the quiet zone would qualify for public authority designation. If the Quiet Zone Risk Index is still higher than the Nationwide Significant Risk Threshold, treat another public crossing with an appropriate SSM and repeat the process until the Quiet Zone Risk Index is equal to, or less than, the Nationwide Significant Risk Threshold. Once this is obtained the quiet zone has qualified for the public authority designation method, and notification may take place once all the necessary improvements have been installed. With this approach, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk Index. If the Quiet Zone Risk Index for the quiet zone is above the Nationwide Significant Risk Threshold, FRA will notify the public authority so that appropriate measures can be taken. (See § 222.51(a).)

7. If the public authority wishes to reduce the risk of the quiet zone to the level of risk that would exist if the horn were sounded at every crossing within the quiet zone, the public authority should calculate the initial Quiet Zone Risk Index as in Step 4. The objective is to now reduce the Quiet Zone Risk Index to the level of the Risk Index with Horns by adding SSMs at the crossings. The difference between the Quiet Zone Risk Index and the Risk Index with Horns is the amount of risk that will have to be reduced in order to fully compensate for lack of the train horn. The use of the Quiet Zone Calculator will aid in determining which SSMs may be used to reduce the risk sufficiently. Follow the procedure stated in Step 6, except that the Quiet Zone Risk Index must be equal to, or less than, the Risk Index

with Horns instead of the Nationwide Significant Risk Threshold. Once this risk level is attained, the quiet zone has qualified for the public authority designation method, and notification may take place once all the necessary improvements have been installed. One important distinction with this option is that the public authority will never need to be concerned with the Nationwide Significant Risk Threshold or the Quiet Zone Risk Index. The rule's intent is to make the quiet zone as safe as if the train horns were sounding. If this is accomplished, the public authority may designate the crossings as a quiet zone and need not be concerned with possible fluctuations in the Nationwide Significant Risk Threshold or annual risk reviews.

C. New Quiet Zones—Public Authority Application to FRA

A public authority must apply to FRA for approval of a quiet zone under two conditions. First, if any of the SSMs selected for the quiet zone do not fully conform to the design standards set forth in appendix A. These are referred to as modified SSMs in appendix B. Second, when programmed law enforcement, public education and awareness programs, or photo enforcement is used to reduce risk in the quiet zone, these are referred to as non-engineering ASMs in appendix B. It should be remembered that non-engineering ASMs will require periodic monitoring as long as the quiet zone is in existence. Please see appendix B for detailed explanations of ASMs and the periodic monitoring of non-engineering ASMs.

The public authority is strongly encouraged to submit the application to FRA for review and comment *before* the appendix B treatments are initiated. This will enable FRA to provide comments on the proposed modified SSMs or non-engineering ASMs to help guide the application process. If non-engineering ASMs are proposed, the public authority also may wish to confirm with FRA that the methodology it plans to use to determine the effectiveness rates of the proposed ASMs is appropriate. A quiet zone that utilizes a combination of SSMs from appendix A and ASMs from appendix B must make a Public Authority Application to FRA. A complete and thoroughly documented application will help to expedite the approval process.

The following discussion is meant to provide guidance on the steps necessary to establish a new quiet zone using the Public Authority Application to FRA method. Once again it should be remembered that all public crossings must be equipped with automatic warning devices consisting of flashing lights and gates in accordance with § 222.35(b).

1. Gather the information previously mentioned in the section on "Requirements for both Public Authority Designation and Public Authority Application."

2. Calculate the risk index for each public crossing as directed in Step 2—Public Authority Designation.

3. Calculate the Crossing Corridor Risk Index, which is also the Risk Index with Horns, as directed in Step 3—Public Authority Designation.

4. Calculate the initial Quiet Zone Risk Index as directed in Step 4—Public Authority Designation.

5. Begin to reduce the Quiet Zone Risk Index through the use of ASMs and SSMs. Follow the procedure provided in Step 6—Public Authority Designation until the Quiet Zone Risk Index has been reduced to equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns. (Remember that the public authority may choose which level of risk reduction is the most appropriate for its community.) Effectiveness rates for ASMs should be provided as follows:

a. Modified SSMs—Estimates of effectiveness for modified SSMs may be proposed based upon adjustments from the effectiveness rates provided in appendix A or from actual field data derived from the crossing sites. The application should provide an estimated effectiveness rate and the rationale for the estimate.

b. Non-engineering ASMs—Effectiveness rates are to be calculated in accordance with the provisions of appendix B, paragraph 2(b).

6. Once it has been determined through analysis that the Quiet Zone Risk Index has been reduced to equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns, the public authority may make application to FRA for a quiet zone under § 222.39(b). FRA will review the application to determine the appropriateness of the proposed effectiveness rates, and whether or not the proposed application demonstrates that the quiet zone meets the requirements of the rule. When submitting the application to FRA for approval, the application must contain the following (§ 222.39(b)(1)):

- Sufficient detail concerning the present safety measures at the public crossings within the proposed quiet zone. This includes current and accurate crossing inventory forms.
- Detailed information on the SSMs' or ASM's that are proposed to be implemented and at which public crossings within the proposed quiet zone.
- Membership and recommendations of the diagnostic team (if any) that reviewed the proposed quiet zone.
- A commitment to implement the proposed safety measures.
- Demonstrate through data and analysis that the proposed measures will reduce the Quiet Zone Risk Index to equal to, or less than, either the Nationwide Significant Risk Threshold or the Risk Index with Horns.
- A copy of the application must be provided to the parties listed under Required Notifications.

7. Upon receiving written approval from FRA of the quiet zone application, the public authority may then proceed with notifications and implementation of the quiet zone. If the quiet zone is qualified by reducing the Quiet Zone Risk Index to at the least the level of the Nationwide Significant Risk Threshold, FRA will annually recalculate the Nationwide Significant Risk Threshold and the Quiet Zone Risk Index. If the Quiet Zone Risk Index for the quiet zone is above the Nationwide Significant Risk Threshold, FRA will notify the public