

**DEPARTMENT OF TRANSPORTATION****Federal Railroad Administration****49 CFR Parts 213 and 237**

[Docket No. FRA 2009–0014, Notice No. 1]

RIN 2130–AC04

**Bridge Safety Standards**

**AGENCY:** Federal Railroad Administration (FRA), Department of Transportation (DOT).

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** FRA is proposing to standardize and establish Federal requirements for railroad bridges. This proposed rule would require track owners to implement bridge management programs that include annual inspections of railroad bridges. The proposed rule would also require track owners to know the safe capacity load of bridges and to conduct special inspections if the weather or other conditions warrant such inspections. Finally, the proposed rule would also require the audit of the bridge management programs and the inspections.

**DATES:** Written comments must be received by October 1, 2009. Comments received after that date will be considered to the extent possible without incurring additional delay or expense.

FRA anticipates being able to complete this rulemaking without a public, oral hearing. However if FRA receives a specific request for a public, oral hearing prior to September 16, 2009, one will be scheduled and FRA will publish a supplemental notice in the **Federal Register** to inform interested parties of the date, time, and location of any such hearing.

**ADDRESSES:** *Comments:* Comments related to Docket No. FRA–2009–0014 may be submitted by any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.Regulations.gov>. Follow the online instructions for submitting comments.

- *Mail:* Docket Management Facility, U.S. Department of Transportation, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001.

- *Hand Delivery:* Docket Management Facility, U.S. Department of Transportation, West Building, Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.

- *Fax:* 202–493–2251.

*Instructions:* All submissions must include the agency name and docket number or Regulatory Identification Number (RIN) for this rulemaking. Please note that all comments received will be posted without change to <http://www.Regulations.gov>, including any personal information provided. Please see the discussion under the Privacy Act heading in the **SUPPLEMENTARY INFORMATION** section of this document.

*Docket:* For access to the docket to read background documents or comments received, go to <http://www.Regulations.gov> at any time or visit the Docket Management Facility, U.S. Department of Transportation, West Building, Ground floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.

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**Background****I. The Safety of Railroad Bridges****A. General**

There are nearly 100,000 railroad bridges in the United States. These bridges are owned by over 600 different entities. The bridges vary in length, load capacity, design, and construction material. Everything that is shipped or transported via rail likely travels across one or more railroad bridge. Thus, everything from intermodal goods,

automobiles, grain, coal, hazardous materials, and passengers is transported on the nation's rail system and therefore across railroad bridges.

The structural integrity of bridges that carry railroad tracks is important to the safety of railroad employees and to the public. The responsibility for the safety of railroad bridges rests with the owner of the track carried by the bridge, together with any other party to whom that responsibility has been assigned by the track owner. The severity of a train accident is usually compounded when a bridge is involved, regardless of the cause of the accident.

Beginning in 1991, FRA conducted a review of the safety of railroad bridges. The review was prompted by the agency's perception that the bridge population was aging, traffic density and loads were increasing on many routes, and the consequences of a bridge failure could be catastrophic. During the past five decades, not one fatality has been caused by the structural failure of a railroad bridge. Train accidents caused by the structural failure of railroad bridges have been extremely rare.

Although the average construction date of railroad bridges predates most highway bridges by several decades, the older railroad bridges were designed to carry heavy steam locomotives. Design factors were generally conservative, and the bridges' functional designs permit repairs and reinforcements when necessary to maintain their viability. Railroad bridges are most often privately, rather than publicly, owned. Their owners seem to recognize the economic consequences of neglecting important maintenance. Private ownership enables the railroads to control the loads that operate over their bridges. Cars and locomotives exceeding the nominal capacity of a bridge are not operated without permission from the responsible bridge engineers, and then only under restrictions and conditions that protect the integrity of the bridge.

Many railroad bridges display superficial signs of deterioration but still retain the capacity to safely carry their loads. Corrosion on a bridge is not a safety issue unless a critical area sees significant loss of material. Routine inspections are prescribed to detect this condition, but determination of its effect requires a detailed inspection and analysis of the bridge. In general, timber bridges continue to function safely, and masonry structures built as early as the 1830's remain functional and safe for their traffic. Of the few train accidents that involved bridges, most have not been caused by structural failure. FRA accident records for the 27 years 1982 through 2008 show 58 train accidents

that were caused by the structural failure of railroad bridges. These accidents resulted in nine reportable injuries and a reported \$26,555,878 damage to railroad facilities, cars and locomotives.

### B. Regulatory History

On April 27, 1995, FRA issued an interim statement of policy on the safety of railroad bridges. Published in the **Federal Register** at 60 FR 20654, the interim statement included a request for comments to be submitted to FRA during a 60-day period following publication. On August 30, 2000, FRA published a final statement of agency policy for the safety of railroad bridges ("policy statement"). See 65 FR 52667. The policy statement can be found at 49 CFR part 213 appendix C. With the policy, FRA established criteria for railroads to use to ensure the structural integrity of bridges that carry railroad tracks, which reflected minor changes following public comment on the interim statement. Unlike regulations under which FRA ordinarily issues violations and assesses civil penalties, the policy statement contains guidelines for the proper maintenance of bridge structures and is advisory in nature.

On October 16, 2008, President Bush signed into law the Railroad Safety Improvement Act of 2008, Public Law 110-423, Division A ("RSIA"). Section 417 of the RSIA directs FRA to issue, by October 16, 2009, regulations requiring railroad track owners to adopt and follow specific procedures to protect the safety of their bridges. This NPRM is the first step to the agency's promulgation of bridge safety regulations per the mandate of the RSIA. In the Section-by-Section Analysis, below, FRA will discuss how the proposed regulatory text addresses each portion of the RSIA.

Prior to the passage of the RSIA, FRA had already begun work on revising the policy statement. On January 13, 2009, FRA published an amendment to the policy statement by incorporating changes proposed by the Rail Safety Advisory Committee ("RSAC") on September 10, 2008. RSAC developed a list of Essential Elements of Railroad Bridge Management Programs ("Essential Elements") which make up the bulk of the amendment. The Essential Elements provide railroad track owners with a uniform, comprehensive set of components for recommended inclusion in their bridge management programs. With this information, a track owner may develop a single, comprehensive set of instructions, information and data as guidance for his employees who are responsible for the management,

inspection, maintenance, and safety of railroad bridges. RSAC also recognized that, although most railroads were already performing these functions to varying degrees, it would be useful to have the recommended Essential Elements available in a central location so that all concerned may see the railroad's full program, and also to determine that no essential element is overlooked.

All aspects of the policy statement that are not incorporated into the regulatory text of part 237 are now found in its appendix A.

## II. The Rail Safety Advisory Committee (RSAC) Overview

In March 1996, FRA established RSAC, which provides a forum for developing consensus recommendations to FRA's Administrator on rulemakings and other safety program issues. The RSAC includes representation from all of the industry's major stakeholders, including railroads, labor organizations, suppliers and manufacturers, and other interested parties. A list of RSAC members follows: American Association of Private Railroad Car Owners (AARPCO); American Association of State Highway & Transportation Officials (AASHTO); American Chemistry Council; American Petrochemical Institute; American Public Transportation Association (APTA); American Short Line and Regional Railroad Association (ASLRRA); American Train Dispatchers Association (ATDA); Association of American Railroads (AAR); Association of Railway Museums (ARM); Association of State Rail Safety Managers (ASRSM); Brotherhood of Locomotive Engineers and Trainmen (BLET); Brotherhood of Maintenance of Way Employees Division (BMWED); Brotherhood of Railroad Signalmen (BRS); Chlorine Institute; Federal Transit Administration (FTA)\*; Fertilizer Institute; High Speed Ground Transportation Association (HSGTA); Institute of Makers of Explosives; International Association of Machinists and Aerospace Workers; International Brotherhood of Electrical Workers (IBEW); Labor Council for Latin American Advancement (LCLAA)\*; League of Railway Industry Women\*; National Association of Railroad Passengers (NARP); National Association of Railway Business Women\*; National Conference of Firemen & Oilers; National Railroad Construction and Maintenance Association; National Railroad Passenger Corporation (Amtrak); National Transportation Safety Board (NTSB)\*; Railway Supply Institute

(RSI); Safe Travel America (STA); Secretaria de Comunicaciones y Transporte\*; Sheet Metal Workers International Association (SMWIA); Tourist Railway Association Inc.; Transport Canada\*; Transport Workers Union of America (TWU); Transportation Communications International Union/BRC (TCIU/BRC); Transportation Security Administration (TSA); and United Transportation Union (UTU).

\*Indicates associate, non-voting membership.

When appropriate, FRA assigns a task to RSAC, and after consideration and debate, RSAC may accept or reject the task. If the task is accepted, RSAC establishes a working group that possesses the appropriate expertise and representation of interests to develop recommendations to FRA for action on the task. These recommendations are developed by consensus. A working group may establish one or more task forces to develop facts and options on a particular aspect of a given task. The task force then provides that information to the working group for consideration. If a working group comes to unanimous consensus on recommendations for action, the package is presented to the full RSAC for a vote. If the proposal is accepted by a simple majority of RSAC, the proposal is formally recommended to FRA. FRA then determines what action to take on the recommendation. Because FRA staff play an active role at the working group level in discussing the issues and options and in drafting the language of the consensus proposal, FRA is often favorably inclined toward the RSAC recommendation.

However, FRA is in no way bound to follow the recommendation, and the agency exercises its independent judgment on whether the recommended rule achieves the agency's regulatory goal, is soundly supported, and is in accordance with policy and legal requirements. Often, FRA varies in some respects from the RSAC recommendation in developing the actual regulatory proposal or final rule. Any such variations would be noted and explained in the rulemaking document issued by FRA. If the working group or RSAC is unable to reach consensus on recommendations for action, FRA moves ahead to resolve the issue through traditional rulemaking proceedings.

## III. Railroad Bridge Working Group

RSAC agreed with FRA on February 20, 2008, to accept the task of reviewing FRA's railroad bridge safety policies and

activities, and to make appropriate recommendations for FRA to improve the bridge safety program. RSAC accordingly established a Railroad Bridge Working Group (RBWG), composed of representatives of the various organizations on the RSAC and including persons with particular expertise in railroad bridge safety and management. The RBWG met on April 24–25, 2008, June 12, 2008, and August 7, 2008. On September 10, 2008, the full RSAC voted on the RBWG's report, and recommended that FRA implement the RBWG's proposal of a set of "Essential Elements of Railroad Bridge Management Programs," (Essential Elements) in FRA's Agency Policy on the Safety of Railroad Bridges.

The RBWG met again on January 28–29, 2009, and February 23–24, 2009, to recommend rule text to address the RSIA's mandate to FRA in Section 417 to promulgate bridge safety regulations. The RBWG reached consensus on proposed regulatory text which makes up the basis of this NPRM. However, there were four items that the RBWG was not able to agree upon. The RBWG could not reach consensus with regard to §§ 237.111(d), 237.111(e), 237.157(a) and 237.157(b). FRA requests that the public comment specifically on these items.

#### IV. Section-by-Section Analysis

##### *Appendix C to Part 213*

FRA proposes to remove appendix C to part 213, which is FRA's Statement of Agency Policy on the Safety of Railroad Bridges ("policy statement"). As many portions of the text in the policy statement will be covered in part 237, it would be redundant and confusing to leave them in the policy statement as currently published in part 213. With regard to the portions of the policy statement that are advisory in nature, FRA is proposing to publish them in a new appendix to part 237, which will be discussed further below.

##### *Section 237.1 Scope*

In this section, FRA proposes the purpose for the minimum standards required under this part for management of railroad bridges. Railroads can adopt more stringent standards as long as they are in accordance with this part.

##### *Section 237.5 Application*

FRA proposes that this rule will apply to all owners of track on bridges which carry railroad track with certain exceptions as outlined or explained in following subsections. As delineated in FRA's Statement of Agency Policy Concerning Enforcement of the Federal

Railroad Safety Laws at appendix A of 49 CFR part 209, FRA exercises jurisdiction over tourist, scenic, and excursion railroad operations whether or not they are conducted on the general railroad system. FRA proposes that this part apply to tourist railroads because the passengers on those railroads are entitled to the protection afforded by this rule.

Paragraph (b). FRA proposes that this part not apply to bridges on track used exclusively for rapid transit operations in urban areas that are not connected with the general system of transportation. This is in accordance with appendix A of 49 CFR 209.

##### *Section 237.7 Responsibility for Compliance*

FRA proposes that the responsibility for the safety of trains on any track lies with the owner of that track. Therefore, the track owner is responsible for complying with the bridge safety standards promulgated in this part. If a bridge carries tracks owned by two or more owners, then the track owner can choose to make an assignment of responsibility for compliance with this part. FRA proposes that the assignment process, delineated in paragraphs (b) through (d) of this section, be similar to the assignment process detailed in 49 CFR 213.5. However, FRA proposes to be able to hold the track owner or the assignee or both responsible for compliance with this part and subject to penalties under section 237.11. FRA intends that the responsibility for compliance with this part will follow, as closely as practicable, the responsibility for compliance with the Federal Track Safety Standards, and that where such responsibility is already assigned, it would not be necessary for the track owner to file an additional assignment of responsibility. As in part 213, FRA intends that "person" means an entity of any type covered under 1 U.S.C. 1, including but not limited to the following: a railroad; a manager, supervisor, official, or other employee or agent of a railroad; any owner, manufacturer, lessor, or lessee of railroad equipment, track or facilities; any independent contractor providing goods or services to a railroad; any employee of such owner, manufacturer, lessor, lessee, or independent contractor; and anyone held by the FRA to be responsible for compliance with this part.

During meetings with the RBWG, FRA staff initially proposed holding the "bridge owner" as the party responsible for compliance with part 237, and had defined the "bridge owner" as the "owner of track to which this part

applies." After reviewing RSAC's recommendation, FRA determined that this definition could cause confusion, as the bridge owner might not be the party who owned the track supported by the bridge. FRA has proposed instead to hold the "track owner" responsible for compliance with this part.

Paragraph (d). FRA proposes that a common carrier by railroad which is directed by the Surface Transportation Board to provide service over the track of another railroad under 49 U.S.C. 11123 is considered the owner of that track for the purposes of the application of this part during the period the directed service order remains in effect. On rare occasions, such as a cessation of service by a railroad, the Surface Transportation Board has directed a railroad other than the track owner to provide service. In such cases, the designated operator shall be considered the owner for purposes of compliance with the bridge safety regulations.

##### *Section 237.9 Definitions*

FRA proposes that the definitions in this section are only intended to apply to this part, and not to alter the same terminology wherever used outside this part for other purposes.

*Bridge modification and repair.* FRA proposes that *bridge modification* means a change to the configuration of a railroad bridge that affects the load capacity of the bridge. FRA proposes that *bridge repair* means remediation of damage or deterioration which has affected the structural integrity of a railroad bridge. FRA proposes that this part requires that modifications and repairs to bridges be designed by railroad bridge engineers, and the work supervised by designated bridge supervisors. This definition clarifies that minor modifications and repairs, such as replacing a wire rope handrail with one made of pipe, or painting a bridge, do not need to be designed and supervised pursuant to this part. However, this does not exempt the track owner from properly supervising the personal safety of the individuals performing the work because that issue is addressed in other rules.

*Railroad bridge.* FRA proposes to define a "railroad bridge" as all structures over openings under the track except small culverts, pipes, or such other structures that are located so far below the track that they only carry dead load from soil pressure, and are not subjected to bending, tension or compression stresses from passing trains. FRA does not intend to relieve a railroad from taking any action necessary to protect the safety of trains in the case of any structure, including

small culverts, by providing for their inspection and maintenance, but it exempts them from the specific requirements of this regulation.

#### *Section 237.11 Penalties*

FRA proposes that this provision conform to provisions of the enabling legislation and stated agency policy. Consistent with FRA's Statement of Agency Policy Concerning Enforcement of the Federal Railroad Safety Laws, a penalty may be assessed against an individual only for a willful violation. The Administrator reserves the right to assess a penalty of up to \$100,000 for any violation where circumstances warrant. See 49 CFR part 209, appendix A.

#### *Section 237.13 Waivers*

FRA proposes that each petition for a waiver under this section shall be filed in the manner and contain the information required by 49 CFR part 211, which prescribes rules of practice that apply to waiver proceedings. The processing of petitions for waiver of safety rules is found at subpart C to part 211.

#### *Section 237.31 Scope*

It should be noted here that FRA is proposing minimum requirements to assure the structural integrity of railroad bridges and to protect the safe operation of trains over those bridges. The responsibility for the safety of a railroad bridge rests with the owner of the track supported by that bridge and the engineer who makes the critical decisions regarding the management and use of that bridge.

#### *Section 237.33 Adoption of Bridge Management Programs*

Congress mandated that FRA "promulgate a regulation requiring owners of track carried on one or more railroad bridges to adopt a bridge safety management program to prevent the deterioration of railroad bridges and reduce the risk of human casualties, environmental damage, and disruption to the Nation's railroad transportation system that would result from a catastrophic bridge failure." Public Law 110-432, Division A, Section 417(a). FRA proposes to require track owners to adopt a bridge safety management program that prevents the deterioration of railroad bridges by preserving their capability to safely carry the traffic to be operated over them. FRA is proposing that Class I carriers and owners of track segments which are part of the general railroad system of transportation and which carry more than ten scheduled passenger trains per week implement

their bridge safety programs by six months after the final rule's effective date. FRA proposes that Class II carriers which carry less than 10 scheduled passenger trains per week implement their bridge safety programs by twelve months after the final rule's effective date. Finally, FRA proposes that all other track owners subject to this part implement their bridge safety programs by 24 months after the final rule's effective date.

FRA has proposed an implementation schedule which is considered realistic, with priorities given to railroads with the highest levels of freight or passenger traffic. The implementation dates apply to the bridge owning entity, not to specific track segments. However, it is reasonable to consider that the specific provisions of each program will be implemented in a manner that accords higher priority to individual track segments with high volumes of freight or passenger traffic.

#### *Section 237.35 Content of Bridge Management Programs*

Certain elements of a bridge management program are essential to its effectiveness. Those elements are enumerated in this section. Track owners and individuals responsible for the safety of railroad bridges are encouraged to adapt these elements to the needs of their areas of responsibility, and to adopt additional elements not inconsistent with the requirements of this part.

*Paragraph (a).* Congress mandated that the new regulations require each track owner to "develop and maintain an accurate inventory of its railroad bridges, which shall identify the location of each bridge, its configuration, type of construction, number of spans, span lengths, and all other information necessary to provide for the safe management of the bridges." Public Law 110-432, Division A, Section 417(b)(1). FRA proposes that such an inventory be maintained. An accurate inventory of any property to be managed is essential so that the responsible individuals may schedule and track inspection, maintenance and repair of the property units.

*Paragraph (b).* Congress mandated that the new regulations require that the track owner "maintain, and update as appropriate, a record of the safe capacity of each bridge which carries its track and, if available, maintain the original design documents of each bridge and a documentation of all repairs, modifications, and inspections of the bridge." Public Law 110-432, Division A, Section 417(b)(3). FRA proposes that a record of the safe load capacity of each

bridge be established. The operation of excessively heavy loads over a bridge will seriously shorten its useful life and will reduce or even eliminate the margin of safety between structural integrity and catastrophic failure. It is essential that the track owner should know that the loads permitted to be operated on a bridge are within the safe limits of the bridge.

*Paragraph (c).* FRA proposes that the track owner obtain and maintain the design documents of each bridge, if available, and to document all repairs, modifications, and inspections of each bridge. The determination of safe load capacity requires knowledge of the configuration of the bridge and the materials of which it is constructed. Although the configuration may be determined by actual measurements of all of the components, that procedure can be tedious and expensive. Good documentation of the design and history of a bridge will enable rapid and accurate determination of bridge capacity when such calculations are needed, as well as determination of the maintenance and service history of a bridge to detect and correct possible deterioration of its components.

*Paragraph (d).* Bridge inspection is absolutely essential to an effective bridge management program. In this paragraph, FRA proposes that the track owner's bridge management program contain a bridge inspection program. Items (1) through (6) should be addressed in the program to the degree that promotes effective and efficient conduct of the inspection program. With regard to item (1), bridge inspection can present certain risks that are inherent in working at heights and around moving vehicles. A bridge inspection program should at least address the unique hazards associated with the process. With regard to item (2), a bridge inspection program should incorporate standards for the procedures and required details of any different types of inspection that are referenced in the program, such as annual inspections, post-event inspections, rating inspections and intermediate periodic inspections. A large railroad might find it convenient to describe the standard procedures for various types of inspections in some detail, while a small railroad that normally conducts only annual inspections might describe only that procedure as well as post-event special inspections, and then issue instructions of particular applicability for other types of inspections that occur only infrequently. With regard to items (3) through (6), use of a standard method of describing the condition of components

promotes effective and efficient communication between the inspector and the persons who review and evaluate a bridge using information from the inspection.

#### *Section 237.51 Scope*

In subpart C, FRA proposes minimum standards for incorporation in railroad bridge management programs for qualification and designations of persons who perform safety critical functions that affect the integrity and safety of railroad bridges. Many aspects of railroad bridge work differ from other fields of engineering, inspection and maintenance. It is essential that the individuals who are responsible for these safety-critical functions be qualified by education, training and experience to perform them correctly.

#### *Section 237.53 Railroad Bridge Engineers*

In this section, FRA proposes the minimum standards that a railroad bridge engineer must meet. Congress directed FRA to “ensure that an engineer who is competent in the field of railroad bridge engineering” is responsible for the development of all inspection procedures, reviews all inspection reports, and determines whether bridges are being inspected according to the applicable procedures and frequency, and reviews any items noted by an inspector as exceptions. Section 417(b)(7) of the RSIA. Railroad bridge engineering is based on the same principles of engineering as all other structural engineering work, but the application of many of those principles is unique to this particular field. The live loads carried on railroad bridges are generally much higher than the loads on highway bridges or other transportation structures. Overall configuration and details of construction of railroad bridges differ greatly from other classes of structures, to the extent that dealing with these features requires some experience with them as well as an understanding of the fundamentals of engineering.

FRA understands that not all railroad bridge engineers will be faced with all aspects of railroad bridge engineering. For example, an engineer engaged to prescribe safe loads for short steel spans and timber trestles on a particular railroad might never have to perform a detailed analysis of a large truss bridge. The basic premise is that the engineer be competent to perform the functions that are encompassed by that individual's employment or engagement. The determination of qualifications by the track owner includes either employment or

engagement of the engineer by the track owner, and designation of the engineer to exercise the authority called for in this part.

Paragraph (b) of this section was added by FRA to the text recommended by the RSAC. FRA proposes that a railroad bridge engineer must also have either: (1) A bachelor's degree in engineering granted by a school of engineering with at least one program accredited or recognized by the Accreditation Board for Engineering and Technology (ABET) as a professional engineering curriculum; or (2) current registration as a professional engineer practicing within his or her licensed scope of practice. FRA believes that the critical nature of railroad bridge engineering work called for in this proposed rule requires persons who meet a minimal educational or experience standard which is common to the engineering profession and which is necessary for an individual who will perform the functions of an engineer as called for in this proposed rule. FRA developed this paragraph from the U.S. Office of Personnel Management's Basic Requirements for Federal Service's classification of an engineer.

In paragraph (c), FRA proposes that nothing in this part is meant to affect the States' authority to regulate the licensure of professional engineers. This section represents a minimum standard to be attained by engineers who perform the functions called for in this regulation. Recognition by FRA as a railroad bridge engineer would not enable a person to provide professional engineering services in violation of a State law or regulation. FRA does not intend to pre-empt or interfere with any State laws regarding the professional practice of engineering.

As the RBWG did not discuss the language in paragraphs (b) and (c) of this section, FRA welcomes public comment on the proposed regulatory text.

#### *Section 237.55 Railroad Bridge Inspectors*

In this section, FRA proposes the minimum standards that a railroad bridge inspector must meet. Effective inspection of bridges is essential to preserving their integrity and serviceability. Inspectors must be able to understand and carry out the inspection procedure, including accessing inspection points on a bridge, measuring components and any changes, describing conditions found in a standard, unambiguous manner, and detecting the development of conditions that are critical to the safety of the bridge. It is essential that an inspector

who detects a potential hazard to the safe operation of trains should be authorized by the track owner to place appropriate restrictions on the operation of railroad traffic pending review as necessary by a railroad bridge engineer. An individual who is not competent in railroad bridge work should not be permitted to overrule a determination made by a designated bridge inspector, supervisor or engineer.

#### *Section 237.57 Railroad Bridge Supervisors*

In this section, FRA proposes minimum standards that a railroad bridge supervisor must meet. Individuals who supervise and take responsibility for construction, repair and modification of railroad bridges must be competent to ensure that the work is performed in accordance with valid standards and any specific specifications, plans and instructions applicable to the work to be performed. This provision applies to any such individual, regardless of job title, who directly oversees such work and approves or restricts the movement of railroad traffic during the progress of the work.

#### *Section 237.59 Designations of Individuals*

In the RSIA, Congress mandated that the bridge regulations designate qualified bridge inspectors or maintenance personnel to authorize the operation of trains on bridges following repairs, damage, or indications of potential structural problems. Public Law 110-432, Division A, Section 417(b)(8). In this section, FRA proposes that each track owner designate certain individuals as qualified railroad bridge engineers, inspectors, and supervisors, and provide a recorded basis for each designation in effect. The track owner must record designations of individuals, whether employees, consultants or contractors. If a consultant or contractor has several individuals performing the described functions under a contract or other engagement, then one or more individuals should be designated as being responsible to the track owner for the work performed under that engagement, with the others working under the responsible charge of that individual.

#### *237.71 Scope*

In subpart D, FRA proposes to prescribe minimum standards to be incorporated in railroad bridge management programs to prevent the operation of equipment that could damage a bridge by exceeding safe stress levels in bridge components or by

extending beyond the horizontal or vertical clearance limits of the bridge. Protection of bridges and bridge components from overstress is essential to the continued integrity and serviceability of the bridge. It is also essential that equipment or loads that exceed the clearance limits of a bridge not be operated owing to the potential for severe damage to the bridge.

#### *Section 237.73 Determination of Bridge Load Capacities*

*Paragraph (a).* In this paragraph, FRA proposes that each track owner determine the load capacity of each of its railroad bridges. It is essential that the track owner know that loads operated over a bridge not exceed the safe capacity of that bridge. However, once it is determined that a bridge has adequate capacity to carry the loads being operated, FRA proposes not to require that any additional effort be expended to precisely calculate the additional capacity of that bridge although that might well be useful from a planning or economic standpoint.

*Paragraph (b).* In this paragraph, FRA proposes that the load capacity of each bridge be documented in the track owner's bridge management programs, together with the method by which the capacity was determined. Once the load capacity is determined, the value must be recorded in order for it to be useful. Examples of methods of determination could be the original design documents, recalculation, or rating inspection.

*Paragraph (c).* In the RSIA, Congress mandated that a professional engineer competent in the field of railroad bridge engineering, or a qualified person under the supervision of the track owner, determine bridge capacity. Public Law 110-432, Division A, Section 417(b)(2). Load capacity determination in most instances requires the education, experience and training of an engineer who is familiar with railroad bridges and the standard practices that are unique to that class of structure.

The present standard references for railroad bridge design and analysis are found in the "Manual for Railway Engineering" of the American Railway Engineering and Maintenance of Way Association (AREMA). The chapters in this Manual dealing with Timber, Concrete and Steel structures, and Seismic Design, are under continuous review by committees consisting of leading engineers in the railroad bridge profession, including representatives of FRA. Although bridges exist that were designed using different or earlier references, they can still be evaluated by use of the AREMA Manual.

*Paragraph (d).* In this paragraph, FRA proposes that bridge load capacity shall be determined from existing design and modification records of a bridge, provided that the bridge substantially conforms to its records configuration. Determination of bridge load capacity requires information on the configuration of the bridge and the dimensions and material of its component parts. If the bridge is found to conform to the drawings of its original design and modifications, those drawings may serve as the basis for any rating calculation that might be performed, thus simplifying the process. Lacking that prior information, it is necessary that the configuration, dimensions and properties of the bridge and its components be determined by on-site measurement of the bridge as it currently exists.

*Paragraph (e).* In this paragraph, FRA proposes that a track owner shall schedule the evaluation of bridges for which the load capacity has not already been determined. This section provides for a phase-in period for determination of bridge capacities. There is probably not sufficient engineering expertise available in the United States for immediate rating of all unrated railroad bridges. This will provide a reasonable time period for track owners to accomplish this work. It is intended that the unrated bridges be given relative priority for rating, based on the judgment of a railroad bridge engineer. This prioritization can be accomplished either by observation or by evaluation of certain critical members of a bridge, as determined by the engineer using professional judgment.

*Paragraph (f).* FRA proposes that a new capacity must be determined by a railroad bridge engineer when a bridge inspection record reveals that the condition of a bridge or a bridge component might affect the load capacity of the bridge. Accurate determination of current bridge capacity depends on accurate information about the current configuration and condition of the bridge. The engineer might determine that a change in condition or configuration calls for a revised rating calculation.

*Paragraph (g).* In this paragraph, FRA proposes that bridge load capacity may be expressed in terms of numerical values related to a standard system of bridge loads, but shall in any case be stated in terms of weight and length of individual or combined cars and locomotives, for the use of transportation personnel. Engineers use standard definitions of loading combinations for design and rating of bridges. Common among these standard

definitions is a series of proportional loads known as the Cooper System. The capacity of a bridge and its components can be described in terms of a Cooper Rating, and the effect of a load on a bridge can also be related to a Cooper System value.

Proper application of this system requires a full understanding of its use and limitations. However, the results of its application can be translated into terms of equipment weights and configurations that can be effectively applied by persons who manage regular transportation operations of the railroad. This enables them to determine if a given locomotive, car or combination can be operated on a bridge with no further consideration, or if the equipment must be evaluated as an exceptional movement.

*Paragraph (h).* FRA proposes that bridge load capacity may be expressed in terms of both normal and maximum load conditions. Normal bridge ratings generally define the loads that can be operated on a bridge for an indefinite period without damaging the bridge. In some cases, mostly involving steel or iron bridges, a higher rating, up to a maximum rating, can be given to the bridge to permit the operation of heavier loads on an infrequent basis. These heavier loads should not, in themselves, damage the bridge, but the cumulative effect of the higher resulting stresses in bridge members could cause their eventual deterioration.

In this paragraph, FRA also proposes that operation of equipment that produces forces greater than the normal capacity shall be subject to any restrictions or conditions that may be prescribed by a railroad bridge engineer. An engineer can often prescribe compensating conditions that will permit the movement of equipment that is heavier than normal. Examples include speed restrictions to reduce the impact factor of the rolling load, the insertion of lighter-weight spacer cars between the heavier cars in a train, or the installation of temporary bents or other supports under specific points on the bridge.

#### *Section 237.75 Protection of Bridges from Over-Weight and Over-Dimension Loads*

Bridges can be seriously damaged by the operation of loads that exceed their capacity. Movement of equipment that exceeds the clear space on a bridge is an obvious safety hazard. In this section, FRA addresses Congress' mandate in the RSIA that the track owner "develop, maintain, and enforce a written procedure that will ensure that its bridges are not loaded beyond their

capacities.” Public Law 110–432, Division A, Section 417(b)(4).

*Paragraph (a).* In this paragraph, FRA proposes that each track owner shall issue instructions to its personnel who are responsible for the consist and operation of trains over its bridges to prevent the operation of cars, locomotives and other equipment that would exceed the capacity or dimensions of its bridges.

Transportation personnel of a railroad are ultimately responsible for the movement of trains, cars and locomotives. It is essential that they should know and follow any restrictions that are placed on those movements.

*Paragraph (b).* In this paragraph, FRA proposes that the instructions regarding weight shall be expressed in terms of maximum equipment weights, and either minimum equipment lengths or axle spacing. Transportation personnel have information on the weights and configuration of cars and locomotives, and they must be able to relate that information to any restrictions placed on the movement of that equipment.

*Paragraph (c).* In this paragraph, FRA proposes that the instructions regarding dimensions shall be expressed in terms of feet and inches of cross section and equipment length, in conformance with common railroad industry practice for reporting dimensions of exceptional equipment in interchange in which height above top-of-rail is shown for each cross section measurement, followed by the width of the car or the shipment at that height. In the industry, a standard format exists for the exchange of information on dimensions of railroad equipment. This standard practice is practical, even if it is not intuitive. Use of the industry practice is necessary to avoid error and confusion.

*Paragraph (d).* In this paragraph, FRA proposes that the instructions may apply to individual structures or to a defined line segment or groups of line segments where the published capacities and dimensions are within the limits of all structures on the subject line segments. Railroads commonly issue instructions related to equipment weights and dimensions to be effective on line segments of various lengths. It is not necessary that transportation personnel be advised of the capacity of every bridge as long as each bridge in the line segment has the capacity to safely carry the loads permitted on that line.

#### *Section 237.101 Scope*

In subpart E, FRA proposes minimum standards to be incorporated into railroad bridge management programs to provide for an effective program of

bridge inspections. Bridge inspection is a vital component in any bridge management program. A bridge with undetected or unreported damage or deterioration can present a serious hazard to the safe operation of trains. Bridge inspection and evaluation is a multi-tiered process, unlike many other types of inspection on a railroad. Where track, equipment and signal inspectors usually can compare measurements against common standards to determine whether the inspected feature complies with the standards, such is not the case with most bridges. The evaluation of a bridge requires the application of engineering principles by a competent person, who is usually not present during the inspection. It is therefore necessary that an inspection report should show any conditions on the bridge that might lead to a reduction in capacity, initiation of repair work, or a more detailed inspection to further characterize the condition.

#### *Section 237.103 Scheduling of Bridge Inspections*

*Paragraph (a).* In this paragraph, FRA proposes regulations to address Congress’ mandate that the track owner “conduct regular comprehensive inspections of each bridge, at least once every year, and maintain records of those inspections that include the date on which the inspection was performed, the precise identification of the bridge inspected, the items inspected, and accurate description of the condition of those items, and a narrative of any inspection item that is found by the inspector to be a potential problem.” Public Law 110–432, Division A, Section 417(b)(5). Annual inspection of bridges has been an industry practice for over a century, and has proven to be an effective tool of bridge management. Even where a bridge sees very low levels of railroad traffic, the potential still exists for damage from external sources or natural deterioration. This paragraph calls for one inspection per calendar year, with not more than 540 days between successive inspections. Both criteria apply. For example, if a bridge is inspected on January 2, 2009, it becomes overdue for inspection on June 27, 2010, 541 days later. If it is inspected on December 18, 2011, it becomes overdue on January 1, 2013, since it was not inspected in calendar year 2012.

*Paragraph (b).* In this paragraph, FRA proposes that a bridge shall be inspected more frequently than the period referenced in paragraph (a), above, when a railroad bridge engineer determines that such inspection frequency is necessary. The

responsibility for adequate inspection remains with the track owner, with the conditions prescribed by a railroad bridge engineer. The inspection regimen for every bridge should be determined from its condition, configuration, environment and traffic levels.

*Paragraph (c).* FRA proposes that each bridge management program define requirements for the special inspection of a bridge to be performed whenever the bridge is involved in an event which might have compromised the integrity of the bridge, including flood, fire, earthquake, derailment, or other vehicular or vessel impact. It is essential that railroad traffic be protected from possible bridge failure caused by damage from an event caused by natural or non-railroad agents. The track owner should have in place a means to receive notice of such an event, including weather and earthquakes, and a procedure to conduct an inspection following such an event.

*Paragraph (d).* In this paragraph, FRA proposes that any railroad bridge that has not been in railroad service and has not been inspected in accordance with this section within the previous 540 days be inspected and the inspection report reviewed by a railroad bridge engineer prior to the resumption of railroad service. The inspection frequency requirements of this section do not apply to bridges that are not in railroad service, but that does not relieve a track owner from responsibility for any damage to outside parties that might be caused by the condition of the bridge. If a bridge not in service has been inspected within the 540 day period, the track owner may accept that inspection and begin railroad service, subject to any determination in that regard by a railroad bridge engineer. The inspection period would date from the last inspection, with no credit for out-of-service time.

#### *Section 237.105 Bridge Inspection Procedures*

In this section, FRA proposes that each bridge management program specify the procedure to be used for inspection of individual bridges or classes and types of bridges. As mandated by the RSIA, FRA proposes that the bridge inspection procedures must be as specified by a railroad bridge engineer who is designated as responsible for the conduct and review of the inspections. Public Law 110–432, Division A, Section 417(b)(7)(A). In the RSIA, Congress also mandated that the bridge safety regulations must “ensure that the level of detail and the inspection procedures are appropriate to the configuration of the bridge,

conditions found during the previous inspections, and the nature of the railroad traffic moved over the bridge, including car weights, train frequency and lengths, levels of passenger and hazardous materials traffic, and vulnerability of the bridge to damage.” Accordingly, FRA proposes that the bridge inspection procedures must ensure that the level of detail and the inspection procedures are appropriate to the configuration of the bridge. Additionally, the bridge inspection procedures must be designed to detect, report and protect deterioration and deficiencies before they present a hazard to safe train operation. The responsibility for adequate inspection remains with the track owner, with the conditions prescribed by a railroad bridge engineer. The inspection regimen for every bridge should be determined from its condition, configuration, environment and traffic levels. The instructions for bridge inspection may be both general, as by bridge type or line segment; and specific as needed by particular considerations for an individual bridge.

#### *Section 237.107 Special Inspections*

*Paragraph (a).* In this paragraph, FRA proposes that each bridge management program prescribe a procedure for protection of train operations and for inspection of any bridge that might have been damaged by a natural or accidental event, including flood, fire, earthquake, derailment or vehicular or vessel impact. It is essential that railroad traffic be protected from possible bridge failure caused by damage from an event caused by natural or non-railroad agents. The track owner should have in place a means to receive notice of such an event, including weather and earthquakes, and a procedure to conduct an inspection following such an event.

*Paragraph (b).* In this paragraph, FRA proposes that each bridge management program provide for the detection of scour or deterioration of bridge components that are submerged or subject to water flow. The condition of bridge components located under water is usually not evident from above. Means to determine their condition might be as simple as using measuring rods from the surface, or might call for periodic or special diving inspection. Advanced technology might also provide devices that can be used to determine underwater conditions.

#### *Section 237.109 Conduct of Bridge Inspections*

In this section, FRA proposes that bridge inspections be conducted under the direct supervision of a designated

bridge inspector, who shall be responsible for the accuracy of the results and the conformity of the inspection to the bridge management program. Bridge inspections can often require more than one person for safety and efficiency. This provision permits others to assist the designated inspector, who remains responsible for the results of the inspection.

#### *Section 237.111 Bridge Inspection Records*

In this section, FRA proposes that each track owner to which this part applies keep a record of each inspection required to be performed on those bridges under this part. A bridge inspection has little value unless it is recorded and reported to the individuals who are responsible for the ultimate determination of the safety of the bridge. Bridge inspectors may use a variety of methods to record their findings as they move about the bridge. These include notebooks, voice recordings, having another individual transcribe notes, and photographs. These notes and other items are usually compiled into a prescribed report form at the end of the day or at the conclusion of the inspection. In paragraph (c), FRA delineates the essential elements that must be addressed and reported in any bridge inspection.

*Paragraph (d).* In this paragraph, FRA proposes that an initial report of each bridge inspection be placed in the location designated by the bridge management program within 14 calendar days of the completion of the field portion of the inspection. The initial report must include the information delineated in paragraph (c)(1) through (c)(5). The RBWG did not reach consensus on this item. FRA drafted this provision with the intent that the actual conduct of the inspection should be reported and recorded, showing the fact that the bridge was actually inspected on a certain date, the type of inspection performed, by whom it was performed, and whether or not any critical conditions were detected. Inspection and reporting procedures vary widely among different railroads and circumstances. In many cases, especially on larger railroads, an inspector would prepare the report before leaving the bridge. The reports might be forwarded by mail, by electronic means, or by hand delivery. They might be forwarded daily, weekly, or even less frequently. In other circumstances, a consulting engineer might be engaged by a small railroad to inspect all of the bridges on all or part of the line, and the final report might be prepared by the engineering firm after

all of the inspections are completed. Similarly, a large railroad might begin a comprehensive inspection and evaluation of a large structure that will take several months to complete.

FRA recognizes the wide range of time periods required for these various inspections and reporting procedures, so this provision was recommended as a means for the track owner to track inspection progress, bridge by bridge, with a simple line item showing:

- (1) The identification of the bridge inspected.
- (2) The date of completion of the inspection.
- (3) The identification of the inspector.
- (4) The type of inspection performed.
- (5) An indication on the report as to whether any item noted thereon requires expedited or critical review by a railroad bridge engineer, and any restrictions placed at the time of the inspection.

These five items can usually be listed on a single line of a report, which might include all of the bridges inspected by one individual in a week or two. The report could be transmitted to the track owner by U.S. Mail or electronically. FRA does not anticipate that the initial or summary report include all of the data called for in the bridge management program, together with any narrative descriptions necessary for the correct interpretation of the report. This information would be included in the complete inspection report. As consensus was not reached by the RBWG, FRA particularly requests comments on this issue.

*Paragraph (e).* The RBWG did not reach consensus on paragraph (e). In this paragraph, FRA proposes that a complete report of each bridge inspection shall be placed in the location designated in the bridge management program within 45 days of the completion of the field portion of the inspection. FRA stipulates that a bridge inspection is not complete until the report of the inspection is filed and available to the persons who are responsible for the management of the bridges inspected. This time period does not include the time used by a consultant or in-house engineering group to complete an analysis of the results of the inspection, and it is not expected that the analysis need be completed within that time period. In cases where a detailed analysis is required, FRA intends that the inspection report on which the analysis is based would be separated from the analysis and filed within the required time frame. As consensus was not reached by the RBWG, FRA requests comments with regard to this issue.

*Paragraph (f).* FRA proposes that each bridge inspection program shall specify the retention period and location for bridge inspection records. There are several good reasons for retaining bridge inspection reports over the period of several years or inspection cycles. First, a comparison of successive reports can reveal any accelerating rates of deterioration or degradation of bridge components. Second, an audit or review of the effectiveness of a bridge inspection program requires comparison of previous inspection reports with the actual condition of a bridge included in the audit. The practice of comparing previous inspection reports with actual bridge conditions has been followed by FRA for more than a decade when evaluating railroad bridge management programs. It provides a valuable factor in determining the effectiveness of a railroad's program.

#### *Section 237.113 Review of Bridge Inspection Reports*

The RSIA requires that an engineer who is competent in the field of railroad bridge engineering review all inspection reports and determine whether bridges are being inspected according to the applicable procedures and frequencies, and review any items noted by an inspector as exceptions. Public Law 110-432, Division A, Section 417(b)(7). In this section, FRA proposes that responsible railroad bridge supervisors and railroad bridge engineers review bridge inspection reports. Bridge inspection is usually a multi-tiered procedure. The inspector reports on the conditions noted in the inspection, but an engineer will necessarily evaluate those noted conditions and determine what, if any, further action is required.

FRA does not intend that a railroad bridge engineer must review every inspection report, so long as the responsible management personnel keep track of the conduct of inspections to see that they are performed in accordance with the schedule and other requirements of this rule and the railroad's program. It should be a simple matter for the inspector to indicate on a report whether or not the report would require higher-level or engineering review. That could provide that the engineering staff would review the reports that indicate problems or issues for them to resolve, and would relieve the engineers from reviewing a majority of the reports that do not indicate an issue needing their review. Section 237.155 audits of inspections, which follow, would include a provision for sampling of routine inspection reports to assure that the inspectors are

properly identifying reports that require higher-level review.

#### *Section 237.131 Scope*

In subpart F, FRA proposes minimum standards to be incorporated in railroad bridge management programs to provide for adequate design and effective supervision of bridge modification and repair which will materially modify the capacity of the bridge or the stresses in any primary load carrying component of the bridge. This section provides for correct design and adequate supervision of repair and modification of bridges where the work could materially affect the capacity of the bridge, or its continued integrity. FRA does not intend that minor repairs that do not affect the capacity of the bridge must be designed by an engineer, but the supervision of that work should be performed by a person who is competent to assure that the work does not inadvertently compromise the integrity of the bridge. For instance, arc welding handrails to the members of a through truss might appear to some to be a minor repair, but it could seriously compromise the structural integrity of the bridge.

#### *Section 237.133 Design*

In this section, FRA proposes that each repair or modification to a bridge pursuant to this part shall be designed by a railroad bridge engineer. Design of entire railroad bridges, modifications and repairs which materially modify the capacity of the bridge or the stresses in any primary load-carrying component of the bridge require the intelligent application of the principles of engineering and can only be performed by an engineer with training and experience in the field of railroad bridges. Railroads have typically issued standard instructions for the performance of common maintenance repairs, such as replacement or upgrading of components of timber trestles. This section specifically permits such a practice.

#### *Section 237.135 Supervision of Repairs and Modifications*

In this section, FRA proposes that each repair or modification pursuant to this part shall be performed under the immediate supervision of a railroad bridge supervisor as defined in § 237.57 of this part and who is designated and authorized by the track owner to supervise the particular work to be performed. Modifications and repairs which materially modify the capacity of the bridge or the stresses in any primary load-carrying component of the bridge must be performed according to the

specific or general specifications and instructions issued by a railroad bridge engineer. Particularly when trains are permitted to pass over a bridge which is being repaired or modified, the supervisor at the bridge must be able to make the necessary determination to either permit, restrict or halt train operation depending on the state of the bridge.

#### *Section 237.151 Scope*

Documentation is essential to any effective management program. In subpart G, FRA proposes minimum standards to be incorporated in railroad bridge management programs to provide for verification of the effectiveness of the program and the accuracy of the information developed thereby, by the track owner and by FRA to evaluate compliance with this regulation.

#### *Section 237.153 Audits, General*

In this section, FRA proposes that each program adopted to comply with this part include provisions for auditing the effectiveness of the several provisions of that program, including the validity of bridge inspection reports and bridge inventory data, and the correct application of movement restrictions to railroad equipment of exceptional weight or configuration. Effective management of a safety-critical program such as this requires an adequate level of checks to assure that the requisite work is being performed correctly.

#### *Section 237.155 Audits of Inspections*

FRA has found over the years during which it has conducted evaluations of railroad bridge programs that one of the most important indicators of the effectiveness of a program is a comparison of recent bridge inspection reports against actual conditions found at the subject bridges. This is fundamental to an effective audit of a bridge management program. Therefore, in this section, FRA proposes that each bridge management program incorporate provisions for an internal audit.

#### *Section 237.157 Documents and Records*

In this section, FRA proposes that each track owner required to implement a bridge management program and keep records under this part make those program documents and records available for inspection and reproduction by the FRA. This section addresses Congress' mandate in the RSIA to establish a program to periodically review bridge inspection and maintenance data from railroad carrier bridge inspectors and FRA bridge

experts. Public Law 110–432, Division A, Section 417(d). As in the case of all railroad safety regulations, FRA has an enforcement responsibility. FRA will require access to the vital documents and records of the various bridge management programs to enable it to carry out that responsibility.

*Paragraphs (a) and (b).* In these paragraphs, FRA proposes minimum standards for electronic record-keeping provisions that a track owner may elect to utilize to comply with the record-keeping provisions of this part. The RBWG was unable to reach consensus on these paragraphs. FRA therefore solicits comments on whether or not this provision is needed to protect the utility, integrity and security of an electronic recordkeeping system that would be applied to a railroad bridge management system.

#### *Appendix A to Part 237—Statement of Agency Policy on the Safety of Railroad Bridges*

A Statement of Agency Policy on the Safety of Railroad Bridges was originally published by FRA in 2000 as Appendix C of the Federal Track Safety Standards, 49 CFR Part 213. With the issuance of 49 CFR Part 237, Railroad Bridge Safety Standards, certain non-regulatory provisions in that Policy Statement have been incorporated in that regulation. However, FRA has determined that other non-regulatory items are still useful as information and guidance. Those provisions of the Policy Statement are therefore retained and placed in this Appendix in lieu of their former location in the Track Safety Standards. FRA requests comment on this appendix, and is interested in whether the public sees value in having this additional guidance.

#### *Appendix B to Part 237—Schedule of Civil Penalties*

Appendix B to part 237 will contain a schedule of civil penalties for use in connection with this part. Consistent with FRA's Statement of Agency Policy Concerning Enforcement of the Federal Railroad Safety Laws, a penalty may be assessed against an individual only for a willful violation. The Administrator reserves the right to assess a penalty of up to \$100,000 for any violation where circumstances warrant. See 49 CFR part 209, appendix A.

### **V. Regulatory Impact and Notices**

#### *A. Executive Order 12866 and DOT Regulatory Policies and Procedures*

This proposed rule has been evaluated in accordance with existing policies and procedures and determined

to be non-significant under both Executive Order 12856 and DOT policies and procedures. See 44 FR 11034; February 26, 1979. FRA has prepared and placed in the docket a regulatory impact analysis addressing the economic impacts from this proposed rule.

As part of the regulatory impact analysis FRA has assessed quantitative measurements of the cost and benefit streams expected from the adoption of this proposed rule. For the twenty-year period the estimated quantified costs total \$159.2 million, and have a present value (PV, 7%) of \$80.5 million. For the same period of time the estimated quantified benefits total \$19.4 million and have a PV(7%) of \$9.8 million. These benefits are exclusive of long-term efficiencies to the railroads with respect to conservation of the capital value of the structures in question. Very often targeted repairs or restoration at an early stage in the deterioration of a bridge may significantly extend the useful life of a bridge. The benefits also do not consider the potential for a catastrophic event resulting in a bridge failure and consequent fatalities to railroad personnel, rail passengers, or persons underneath the bridge. Although FRA has verified through its bridge program that most railroads properly manage their bridges most of the time, in the recent past FRA has also determined circumstances—even on Class I railroads—where proper inspections or repairs have been inappropriately deferred. Accordingly, this rule offers the opportunity to capture and extend the current heightened attention to bridge management achieved through industry and FRA efforts over the past several years.

#### *B. Regulatory Flexibility Act and Executive Order 13272; Initial Regulatory Flexibility Assessment*

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) and Executive Order 13272 require a review of proposed and final rules to assess their impacts on small entities. An agency must prepare an initial regulatory flexibility analysis (IRFA) unless it determines and certifies that a rule, if promulgated, would not have a significant impact on a substantial number of small entities. DOT has not determined whether this proposed rule would have a significant economic impact on a substantial number of small entities. Therefore, we are publishing this IRFA to aid the public in commenting on the potential small business impacts of the proposals in this NPRM. We invite all interested parties to submit data and information

regarding the potential economic impact that would result from adoption of the proposals in this NPRM. We will consider all comments received in the public comment process when making a determination in the final Regulatory Flexibility Assessment (RFA).

In accordance with the Regulatory Flexibility Act, an IRFA must contain:

(1) A description of the reasons why action by the agency is being considered;

(2) A succinct statement of the objectives of, and the legal basis for, the proposed rule;

(3) A description of, and where feasible, an estimate of the number of small entities to which the proposed rule will apply;

(4) A description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;

(5) An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap, or conflict with the proposed rule; and

(6) A description of any significant alternatives to the proposed rule that accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities. 5 U.S.C. 603(b), (c).

#### **1. Reasons for Considering Agency Action**

As discussed in section I of the preamble to the notice of proposed rulemaking, the structural integrity of bridges that carry railroad tracks is important because the severity of a train accident is usually compounded when a bridge is involved, regardless of the cause of the accident. In 2000, FRA published a final statement of agency policy for the safety of railroad bridges establishing criteria to ensure the structural integrity of bridges that carry railroad tracks. RSIA 2008 directs FRA to issue, by October 16, 2009, regulations requiring railroad track owners to adopt and follow specific procedures to protect the safety of their bridges.

There are over 100,000 railroad bridges in the United States. Federal regulations offer the benefit of uniformity that would allow railroads that operate in more than one State to develop and implement a single management program that would apply to all of their railroad bridges, which support one or more tracks, rather than more than one program each tailored to

meet the different requirements of different State or local jurisdictions.

## 2. Objectives and Legal Basis for Proposed Rule

### (a). Legal Basis for Proposed Rule

As discussed earlier in the preamble, FRA is issuing this proposed rule to promulgate minimum bridge safety standards as mandated by the Railroad Safety Improvement Act of 2008 section 417, Public Law 110-432 (Oct. 16, 2008) (codified at 9 U.S.C. 20157).

### (b). Objective of Proposed Rule

As stated in the RSIA 2008, the objective of this rulemaking is to prevent the deterioration of railroad bridges and reduce the risk of human casualties, environmental damage, and disruption to the Nation's railroad transportation system that would result from a catastrophic bridge failure.

## 3. Description and Estimate of Small Entities Affected

The "universe" of the entities to be considered in an IRFA generally includes only those small entities that can reasonably be expected to be directly regulated by the proposed action. Two types of small entities are potentially affected by this proposed rule: (1) Railroads that own track supported by a bridge, and (2) governmental jurisdictions of small communities that own bridges.

"Small entity" is defined in 5 U.S.C. 601. Section 601(3) defines a "small entity" as having the same meaning as "small business concern" under section 3 of the Small Business Act. This includes any small business concern that is independently owned and operated, and is not dominant in its field of operation. Section 601(4) includes not-for-profit enterprises that are independently owned and operated, and are not dominant in their field of operations within the definition of "small entities." Additionally, section 601(5) defines as "small entities" governments of cities, counties, towns, townships, villages, school districts, or special districts with populations less than 50,000.

The U.S. Small Business Administration (SBA) stipulates "size standards" for small entities. It provides that the largest a for-profit railroad business firm may be (and still classify as a "small entity") is 1,500 employees for "Line-Haul Operating" railroads, and 500 employees for "Short-Line Operating" railroads.<sup>1</sup>

SBA size standards may be altered by Federal agencies in consultation with SBA, and in conjunction with public comment. Pursuant to the authority provided to it by SBA, FRA has published a final policy, which formally establishes small entities as railroads that meet the line haulage revenue requirements of a Class III railroad.<sup>2</sup> Currently, the revenue requirements are \$20 million or less in annual operating revenue, adjusted annually for inflation. The \$20 million limit (adjusted annually for inflation) is based on the Surface Transportation Board's threshold of a Class III railroad carrier, which is adjusted by applying the railroad revenue deflator adjustment.<sup>3</sup> The same dollar limit on revenues is established to determine whether a railroad shipper or contractor is a small entity. DOT proposes to use this definition for this rulemaking.

### (a). Governmental Jurisdictions of Small Communities

Small entities that are classified as governmental jurisdictions of small communities may also be affected by the proposals in this NPRM. As stated above, and defined by SBA, this term refers to governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of less than 50,000. The potential impact of this rulemaking to these entities is related to their ownership of a bridge and possibly the track supported by the bridge as well. Such bridges are usually built by communities, with railroad collaboration, to achieve highway-rail grade separation. FRA does not have information regarding the number of small communities that own such bridges. In such cases, however, the government entity and the railroad usually apportion ownership, expenses and maintenance responsibility according to the provisions of an order from the State regulatory agency that governs highway/railroad crossing improvements. It is most common for the railroad to retain the responsibility for the actual inspection and management of the bridge. To the extent that agreements require cost-sharing and existing bridge management programs would have to be enhanced to meet the proposed regulation, there may be some burden passed on to small government jurisdictions; however, such burden is not expected to be substantial. To the extent that any burden does result, it is likely that insurance premiums will be

adjusted to reflect the risk reduction, resulting in some level of savings in addition to the cost of the program enhancement. This would, of course, be in addition to safety benefits related to fewer accidents.

Accordingly, FRA cannot accurately assess the number of governmental jurisdictions of small communities that would be directly impacted by this proposed regulation and what the impact would be. FRA requests comment from affected governmental jurisdictions as to the impact the proposed rule will have on them.

### (b). Railroads

There are approximately 687 small railroads meeting the definition of "small entity" as described above. FRA estimates that approximately 95 percent of these small entities, or approximately 653, own track supported by a bridge. Because the proposed rule would apply to all of these small railroads, we have concluded that a substantial number of such entities would be impacted. Note, however, that approximately 90 of these railroads are subsidiaries of large short-line holding companies with the expertise and resources comparable to larger railroads. In addition, absent this rulemaking, most railroads that own track supported by bridges, including many of the railroads identified as small entities, would to some extent voluntarily incur the expense associated with implementation of the bridge management programs in accordance with the requirements proposed by FRA to address the risk associated with structural failure of a bridge. In fact, the ASLRRA, which represents most of the small railroads impacted by this rulemaking, has developed a model bridge management program intended to keep bridge and culvert infrastructure safe and structurally sound. Member railroads are expected to take the generic plan and customize to meet their specific circumstances and meet the requirements proposed in this notice. Such initiative would minimize the program development cost. Nevertheless, program implementation costs may be substantial for those small railroads that do not currently have bridge management programs and do not inspect railroad bridges regularly.

While we recognize that some small railroads do not currently have bridge management programs, we believe that many railroads have already made or are making the transition to track structures and bridges capable of handling 286,000-pound cars in line with the general movement in the industry toward these heavier freight cars. To protect such investments, which are

<sup>1</sup> "Table of Size Standards," U.S. Small Business Administration, January 31, 1996, 13 CFR Part 121. See also NAICS Codes 482111 and 482112.

<sup>2</sup> See 68 FR 24891 (May 9, 2003).

<sup>3</sup> For further information on the calculation of the specific dollar limit, please see 49 CFR Part 1201.

usually quite significant, railroads are already implementing bridge management programs.

For example, in 2005, the Texas Transportation Institute reported that 42 percent of the short-line railroad miles that were operated in Texas that year had already been upgraded, nine percent would not need an upgrade, and 47 percent needed upgrading if they wanted to transport any type of 286,000-pound shipments.<sup>4</sup> In addition, the results of a 1998–1999 survey conducted by the ASLRRA indicated that 41 percent of respondent short-line railroads could handle 286,000-pound rail cars and 87 percent of the respondent short-line railroads indicated that they would need to accommodate 286,000-pound railcars in the future.<sup>5</sup>

In addition, at least one Class I railroad has arranged for short-line and regional railroads that connect with it to send participants to several multi-day bridge inspection classes this year.

In general, implementation of the proposed rule will significantly burden only a small portion of the small railroads potentially affected. We invite commenters to submit information that might assist us in assessing the cost impacts on small railroads of the proposals in this NPRM.

#### 4. Description of Reporting, Recordkeeping, and Other Compliance Requirements and Impacts on Small Entities Resulting From Specific Proposed Requirements

The impacts from this proposed rulemaking would primarily result from complying with the requirements for the adoption of bridge management programs. The proposed rule provides affected entities 6 to 24 month periods of time in which to adopt such programs. Class III railroads would have the full 24 month period.

##### (a). Recordkeeping Requirement of Proposed § 237.35

Proposed § 237.35 requires that each bridge management program include an accurate inventory of railroad bridges; a record of the safe load capacity of each bridge; a provision to obtain and maintain the design documents of each bridge if available, and to document all repairs, modifications, and inspections of each bridge; and a bridge inspection

program covering the method of documenting inspections including standard forms and formats.

FRA believes that most railroads, regardless of size, already maintain an accurate inventory of their railroad bridges, records of the safe load capacity of their bridges, and design documents to the extent they are available. Likewise, most railroads maintain documents related to all repairs, modifications, and inspections of bridges because it is good business practice to do so. The States of Ohio, Michigan, and New York have existing bridge regulations requiring railroads to maintain bridge inventories and inspect bridges annually. There are approximately 100 small railroads that operate in those States. However, some railroads may not include in their documentation some of the particular data items specified in the proposal. Thus these requirements would impose a nominal additional recordkeeping burden on some small railroads.

As noted above not all small railroads have inspection programs. The ASLRRA, however, has developed a model program for its members, thus minimizing the burden associated with development of such plans. FRA estimates that the burden for individual railroad customization of the program would range from \$570, for the smaller Class III railroads, to \$3,000 for the larger Class III railroads. Costs associated with maintenance, modifications and updates to bridge management plans will average approximately 15% of the initial development costs, or between \$85 and \$450 annually. Therefore, this reporting requirement would have very little impact on small entities.

Determination of bridge load capacity would be made by a bridge engineer, who is a person that is determined by the bridge owner to be competent to perform the functions necessary for the determination of load capacity. Bridge inspection procedures would be specified by a railroad bridge engineer who is designated as responsible for the conduct and review of the inspections.

##### (b). Bridge Inspections

Bridge management programs would be required to contain bridge inspection programs. Proposed subpart E requires calendar year inspection of bridges according to specified procedures as well as special inspection of bridges that might be damaged by a natural or accidental event. This subpart also specifies that bridge inspections must be conducted under the direct supervision of a designated bridge inspector who is a person determined to be technically

competent to supervise the construction, modification or repair of a railroad bridge. FRA expects there would be a significant increase in the number of bridge inspections conducted by small railroads or their contractors. FRA requests comments and input regarding the extent to which Class III railroads already conduct annual inspection of bridges and the extent to which they would have to conduct additional bridge inspections.

Most small railroads do not have bridge engineers or inspectors on staff. They contract out bridge inspections. A typical contract will be for the inspection of most if not all the bridges the railroad owns, with delivery of a final report addressing the state of all bridges. Interim reports may be provided to the railroad as necessary on bridges requiring more immediate attention. FRA believes that small railroads will take advantage of such flexibility and require contractors to file interim reports.

Some States provide short-line railroads funding via grants and loans for infrastructure improvements including bridge rehabilitation; track maintenance; and bridge inspection. For instance, the Tennessee Department of Transportation (DOT) provides significant grants for such projects to most of the 20 Class III railroads in the State.<sup>6</sup> Pennsylvania DOT administers a matching grant program to support freight railroad maintenance and construction costs.

FRA believes that small railroads own or would otherwise be responsible for inspecting approximately 20,000 bridges. FRA estimates that the average cost per bridge inspection is \$750 and that approximately 10,000 bridges are being inspected less frequently than once a year, while 5,000 are not inspected at all. Some small railroads may own track supported by several bridges, especially in some areas where the terrain requires such structures. FRA requests comment regarding the level of cost burden that the proposed annual inspection would impose.

##### (c). Determination of Bridge Load Capacities

Proposed Subpart D requires the determination of bridge load capacities. FRA believes that railroad bridge owners are generally aware of bridge load capacities. Nevertheless, it is likely that some railroads will have to take action to verify this information in order

<sup>4</sup> Jeffrey E. Warner & Manuel Solari Terra, "Assessment of Texas Short Line Railroads," Texas Transportation Institute (Nov. 15, 2005).

<sup>5</sup> The Ten-Year Needs of Short Line and Regional Railroads, Standing Committee on Rail Transportation, American Association of State Highway and Transportation Officials, Washington, DC (Dec. 1999). This report was based on a survey conducted by the ASLRRA in 1998 and 1999 with data from 1997.

<sup>6</sup> U.S. General Accounting Office, "Railroad Bridges and Tunnels, Federal Role in Providing Safety Oversight and Freight Infrastructure Investment Could Be Better Targeted," August 2007 (GAO-07-770).

to develop the type of documentation required by this subpart. Bridge load capacity information is vital to ensuring that safe capacity is not exceeded. Small railroads impacted by this requirement would likely have a contractor perform such calculations.

(d). Repair and Modification of Bridges

Proposed Subpart F prescribes minimum standards for the bridge modification and repair that will materially modify the capacity of a bridge or the stresses in any primary load carrying component of the bridge. Modifications and repairs to bridges (except for minor modifications and repairs) would have to be designed by railroad bridge engineers, and the work would have to be supervised by designated bridge supervisors. Small railroads will generally contract out such modifications and repairs. Contractors as common practice meet the design and supervision requirements proposed. Thus, the additional cost of such compliance with this requirement is not important to this assessment. DOT believes that there would be no additional burden imposed on small entities as a result of this requirement.

(e). Audits

Each program would have to include provisions for auditing the effectiveness of several provisions of the program, including the validity of bridge inspection reports and bridge inventory data, and the correct application of movement restrictions to railroad equipment of exceptional weight or configuration. FRA anticipates that Class III railroad audits would generally be performed by a company official following guidance in the ASLRRA

model program and without assistance from an external financial or engineering auditor.

5. Identification of Relevant Duplicative, Overlapping, or Conflicting Federal Rules

There are no Federal rules that would duplicate, overlap, or conflict with this proposed rule.

6. Alternatives Considered

In proposed § 237.33, FRA sets the schedule for railroads to adopt bridge safety management programs. In consideration of the impact on small railroads that may not already have such programs, this schedule provides small railroads with an additional 18 months over Class I carriers and an additional 12 months over Class II carriers to adopt these.

FRA has identified no additional significant alternative to the proposed rule which satisfies the mandate of RSIA 2008 or meets the agency's objective in promulgating this rule, and that would minimize the economic impact of the proposed rule on small entities. As in all aspects of this IRFA, FRA requests comments on this finding of no significant alternative related to small entities.

The process by which this proposed rule was developed provided outreach to small entities. As noted in section III of this notice, this notice was developed in consultation with industry representatives via the Railroad Safety Advisory Committee (RSAC), which includes small railroad representatives. On December 10, 2008 the RSAC referred to the Railroad Bridge Working Group, which had been established in March 2008, to develop a draft rule requiring owner of track carried on one

or more railroad bridges to adopt a bridge safety management program to reduce the risk of human casualties, environmental damage, and disruption to the Nations' railroad transportation system that would result from catastrophic bridge failure. The Working Group met twice, on January 28–29, 2009 and February 23–25, 2009. Small railroad representatives participated in both meetings and raised issues of concern to small railroads. Of specific concern to small railroads that own several bridges and contract out the inspection of these bridges was the ability to continue to enter into such contractual agreements structured such that final inspection reports are submitted as part of a single report at the completion of the contract, which could span several months. This proposed rule takes into account this expressed concern and accommodates such current contract structures, as long as interim reports are filed.

Subsequent to publication of this notice of proposed rulemaking, FRA will hold a public hearing if it is requested. At that time, FRA will gather more information, including the rule's potential impact on small entities, and FRA encourages the active participation of any small entity potentially affected.

C. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 *et seq.* The sections that would contain the new information collection requirements are noted, and the estimated times to fulfill each of the requirements are as follows:

| CFR section                                                                                                                     | Respondent universe | Total annual responses         | Average time per response | Total annual burden hours |
|---------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------|---------------------------|---------------------------|
| 237.7—Notifications to FRA of Assignment of Bridge Responsibility—Signed Statement by Assignee Concerning Bridge Responsibility | 727 Railroads ...   | 15 notifications               | 90 minutes .....          | 22.5                      |
|                                                                                                                                 | 727 Railroads ...   | 15 signed statements.          | 30 minutes .....          | 7.5                       |
| 237.13—Waivers—Petitions .....                                                                                                  | 727 Railroads ...   | 12 petitions .....             | 4 hours .....             | 48                        |
| 237.33—Development/Adoption of Bridge Management Program ....                                                                   | 727 Railroads ...   | 727 plans .....                | Varies .....              | 20,474                    |
| 237.59—Designation of Qualified Individuals .....                                                                               | 727 Railroads ...   | 200 designations.              | 30 minutes .....          | 100                       |
| 237.73—Determination of Bridge Load Capacities .....                                                                            | 727 Railroads ...   | 2,000 determinations.          | 8 hours .....             | 16,000                    |
| 237.75—Issuance of Instructions to Railroad Personnel by Track Owner.                                                           | 727 Railroads ...   | 2,000 instructions.            | 2 hours .....             | 4,000                     |
| 237.107—Special Bridge Inspections and Reports/Records .....                                                                    | 727 Railroads ...   | 50 insp. and reports/rcds.     | 40 hours .....            | 2,000                     |
| 237.109 and 237.111—Nationwide Annual Bridge Inspections—Reports.                                                               | 727 Railroads ...   | 18,000 insp. and reports.      | 4 hours .....             | 72,000                    |
| —Records .....                                                                                                                  | 727 Railroads ...   | 18,000 records                 | 1 hour .....              | 18,000                    |
| 237.113—Review of Bridge Inspection Reports by RR Bridge Engineers.                                                             | 727 Railroads ...   | 2,000 insp. rpt. reviews.      | 30 minutes .....          | 1,000                     |
| —Prescription of Bridge Insp. Procedure Modifications After Review                                                              | 727 Railroads ...   | 200 insp. proc. modifications. | 30 minutes .....          | 100                       |
| 237.133—Design of Bridge Modifications or Bridge Repairs .....                                                                  | 727 Railroads ...   | 500 designs .....              | 16 hours .....            | 8,000                     |

| CFR section                                                                                         | Respondent universe | Total annual responses | Average time per response  | Total annual burden hours |
|-----------------------------------------------------------------------------------------------------|---------------------|------------------------|----------------------------|---------------------------|
| 237.155—Audits of Inspections .....                                                                 | 727 Railroads ...   | 727 insp. audits       | 80 hours/24 hours/6 hours. | 5,746                     |
| 237.157—Documents and Records .....                                                                 | 727 Railroads ...   | 5 systems .....        | 80 hours .....             | 400                       |
| —Establishment of RR Monitoring and Info. Technology Security Systems for Electronic Recordkeeping. |                     |                        |                            |                           |
| —Employees Trained in System .....                                                                  | 727 Railroads ...   | 100 employees          | 8 hours .....              | 800                       |

All estimates include the time for reviewing instructions; searching existing data sources; gathering or maintaining the needed data; and reviewing the information. Pursuant to 44 U.S.C. 3506(c)(2)(B), FRA solicits comments concerning: whether these information collection requirements are necessary for the proper performance of the functions of FRA, including whether the information has practical utility; the accuracy of FRA's estimates of the burden of the information collection requirements; the quality, utility, and clarity of the information to be collected; and whether the burden of collection of information on those who are to respond, including through the use of automated collection techniques or other forms of information technology, may be minimized. For information or a copy of the paperwork package submitted to OMB, contact Mr. Robert Brogan, Information Clearance Officer, at (202) 493-6292, or Ms. Nakia Jackson at (202) 493-6073.

Organizations and individuals desiring to submit comments on the collection of information requirements should direct them to Mr. Robert Brogan or Ms. Nakia Jackson, Federal Railroad Administration, 1200 New Jersey Avenue, SE., 3rd Floor, Washington, DC 20590. Comments may also be submitted via e-mail to Mr. Brogan or Ms. Jackson at the following addresses: [robert.brogan@dot.gov](mailto:robert.brogan@dot.gov); [nakia.jackson@dot.gov](mailto:nakia.jackson@dot.gov).

OMB is required to make a decision concerning the collection of information requirements contained in this proposed rule between 30 and 60 days after publication of this document in the **Federal Register**. Therefore, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

FRA is not authorized to impose a penalty on persons for violating information collection requirements which do not display a current OMB control number, if required. FRA intends to obtain current OMB control numbers for any new information collection requirements resulting from

this rulemaking action prior to the effective date of the final rule. The OMB control number, when assigned, will be announced by separate notice in the **Federal Register**.

#### *D. Environmental Impact*

FRA has evaluated this proposed rule in accordance with its "Procedures for Considering Environmental Impacts" (FRA's Procedures) (64 FR 28545, May 26, 1999) as required by the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*), other environmental statutes, Executive Orders, and related regulatory requirements. FRA has determined that this action is not a major FRA action (requiring the preparation of an environmental impact statement or environmental assessment) because it is categorically excluded from detailed environmental review pursuant to section 4(c)(20) of FRA's Procedures. 64 FR 28547, May 26, 1999. In accordance with section 4(c) and (e) of FRA's Procedures, the agency has further concluded that no extraordinary circumstances exist with respect to this NPRM that might trigger the need for a more detailed environmental review. As a result, FRA finds that this proposed rule is not a major Federal action significantly affecting the quality of the human environment.

#### *E. Federalism Implications*

Executive Order 13132, "Federalism" (64 FR 43255, Aug. 10, 1999), requires FRA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" are defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Under Executive Order 13132, the agency may not issue a regulation with federalism implications that imposes substantial direct compliance costs and that is not required by statute, unless the Federal government provides the funds

necessary to pay the direct compliance costs incurred by State and local governments, the agency consults with State and local governments, or the agency consults with State and local government officials early in the process of developing the regulation. Where a regulation has federalism implications and preempts State law, the agency seeks to consult with State and local officials in the process of developing the regulation.

This proposed rule has preemptive effect. Subject to a limited exception for essentially local safety or security hazards, the requirements of the final rule would be intended to establish a uniform Federal safety standard that must be met, and State requirements covering the same subject would be displaced, whether those standards are in the form of State statutes, regulations, local ordinances, or other forms of State law, including common law. Section 20106 of Title 49 of the United States Code provides that all regulations prescribed by the Secretary related to railroad safety preempt any State law, regulation, or order covering the same subject matter, except a provision necessary to eliminate or reduce an essentially local safety or security hazard that is not incompatible with a Federal law, regulation, or order, and that does not unreasonably burden interstate commerce. This is consistent with past practice at FRA, and within the Department of Transportation.

FRA has analyzed this proposed rule in accordance with the principles and criteria contained in Executive Order 13132. This final rule will not have a substantial effect on the States, on the relationship between the Federal government and the States, or on the distribution of power and responsibilities among various levels of government. This final rule will not have federalism implications that impose any direct compliance costs on State and local governments.

FRA notes that RSAC, which endorsed and recommended the majority of this final rule, has as permanent members two organizations representing State and local interests: AASHTO and ASRSM. Both of these State organizations concurred with the

RSAC recommendation endorsing this proposed rule. RSAC regularly provides recommendations to the FRA Administrator for solutions to regulatory issues that reflect significant input from its State members. To date, FRA has received no indication of concerns about the federalism implications of this rulemaking from these representatives or from any other representatives of State government. Consequently, FRA concludes that this proposed rule has no federalism implications.

This regulation does not preempt an action under State law seeking damages for personal injury, death, or property damage alleging that a party has failed to comply with the Federal standard of care established by this part, including a bridge management program required by this part. Provisions of a bridge management program which exceed the requirements of this part are not included in the Federal standard of care. It is strongly in the interest of railroad safety for railroads to exceed the requirements of Federal law and FRA encourages railroads to do so. A railroad would be discouraged from setting a higher standard for itself if it would be held liable in tort for exceeding the requirements of Federal law, but failing to attain the higher standard it set for itself. The statute supports this distinction.

It is a settled principle of statutory construction that, if the statute is clear and unambiguous, it must be applied according to its terms. *Carcieri v. Salazar*, 555 U.S.—(2009). Read by itself, Section 20106(a) preempts State standards of care, but does not expressly state whether anything replaces the preempted standards of care for purposes of tort suits. The focus of that provision is clearly on who regulates railroad safety: the Federal government or the States. It is about improving railroad safety, for which Congress deems nationally uniform standards to be necessary in the great majority of cases. That purpose has collateral consequences for tort law which new Section 20106 subsections (b) and (c) address. New subsection (b)(1) creates three exceptions to the possible consequences flowing from subsection (a). One of those exceptions ((b)(1)(B)) precisely addresses an issue presented in *Lundeen v. Canadian Pacific Ry. Co.*, 507 F.Supp.2d 1006 (D.Minn., 2007) Congress wished to rectify: it allows plaintiffs to sue a railroad in tort for violation of its own plan, rule, or standard that it created pursuant to a regulation or order issued by either of the Secretaries. None of those exceptions covers a plan, rule, or standard that a regulated entity creates

for itself in order to produce a higher level of safety than Federal law requires, and such plans, rules, or standards were not at issue in *Lundeen*. The key concept of section 20106(b) is permitting actions under State law seeking damages for personal injury, death, or property damage to proceed using a Federal standard of care. A plan, rule, or standard that a regulated entity creates pursuant to a Federal regulation logically fits the paradigm of a Federal standard of care—Federal law requires it and determines its adequacy. A plan, rule, or standard, or portions of one, that a regulated entity creates on its own in order to exceed the requirements of Federal law does not fit the paradigm of a Federal standard of care—Federal law does not require it and, past the point at which the requirements of Federal law are satisfied, says nothing about its adequacy. That is why FRA believes section 20106(b)(1)(B) covers the former, but not the latter. The basic purpose of the statute—improving railroad safety—is best served by encouraging regulated entities to do more than the law requires and would be disserved by increasing the potential tort liability of regulated entities that choose to exceed Federal standards, which would discourage them from ever exceeding Federal standards again.

In this manner, Congress adroitly preserved its policy of national uniformity of railroad safety regulation expressed in Section 20106(a)(1) and assured plaintiffs in tort cases involving railroads, such as *Lundeen*, of their ability to pursue their cases by clarifying that Federal railroad safety regulations preempt the standard of care, not the underlying causes of action in tort. Under this interpretation, all parts of the statute are given meanings that work together effectively and serve the safety purposes of the statute.

#### *F. Unfunded Mandates Reform Act of 1995*

Pursuant to Section 201 of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4, 2 U.S.C. 1531), each Federal agency “shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and Tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically set forth in law).” Section 202 of the Act (2 U.S.C. 1532) further requires that “before promulgating any general notice of proposed rulemaking that is likely to result in the promulgation of any rule that includes any Federal mandate that may result in the expenditure by State, local, and Tribal governments, in the

aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) [currently \$141,300,000] in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement” detailing the effect on State, local, and Tribal governments and the private sector. This proposed rule will not result in the expenditure, in the aggregate, of \$141,300,000 or more in any one year, and thus preparation of such a statement is not required.

#### *G. Energy Impact*

Executive Order 13211 requires Federal agencies to prepare a Statement of Energy Effects for any “significant energy action.” See 66 FR 28355 (May 22, 2001). Under the Executive Order a “significant energy action” is defined as any action by an agency that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking: (1)(i) That is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action. FRA has evaluated this proposed rule in accordance with Executive Order 13211. FRA has determined that this proposed rule is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Consequently, FRA has determined that this proposed rule is not a “significant energy action” within the meaning of the Executive Order.

#### *H. Privacy Act Statement*

Anyone is able to search the electronic form of all comments received into any of DOT’s dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc). You may review DOT’s complete Privacy Act Statement published in the **Federal Register** on April 11, 2000 (Volume 65, Number 70, Pages 19477–78), or you may visit <http://DocketsInfo.dot.gov>.

#### **List of Subjects**

##### *49 CFR Part 213*

Penalties, Railroad safety, Reporting and recordkeeping requirements.

**49 CFR Part 237**

Penalties, Railroad safety, Bridge safety, Reporting and recordkeeping requirements.

**The Proposed Rule**

In consideration of the foregoing, FRA proposes to amend chapter II, Subtitle B, of title 49 of the Code of Federal Regulations as follows.

**PART 213—[AMENDED]**

1. The authority citation for part 213 continues to read as follows:

**Authority:** 49 U.S.C. 20102–20114 and 20142; 28 U.S.C. 2461, note; and 49 CFR 1.49(m).

**Appendix C—[Removed]**

2. In part 213, remove appendix C.
3. Add part 237 to read as follows:

**PART 237—BRIDGE SAFETY STANDARDS****Subpart A—General**

Sec.

- 237.1 Scope of part.
- 237.3 Preemptive effect.
- 237.5 Application.
- 237.7 Responsibility for compliance.
- 237.9 Definitions.
- 237.11 Penalties.
- 237.13 Waivers.
- 237.15 Information collection [reserved].

**Subpart B—Railroad Bridge Safety Assurance**

- 237.31 Scope.
- 237.33 Adoption of bridge management programs.
- 237.35 Content of bridge management programs.

**Subpart C—Qualifications and Designations of Responsible Persons**

- 237.51 Scope.
- 237.53 eRailroad bridge engineers.
- 237.55 Railroad bridge inspectors.
- 237.57 Railroad bridge supervisors.
- 237.59 Designation of individuals.

**Subpart D—Capacity of Bridges**

- 237.71 Scope.
- 237.73 Determination of bridge load capacities.
- 237.75 Protection of bridges from over-weight and over-dimension loads.

**Subpart E—Bridge Inspection**

- 237.101 Scope.
- 237.103 Scheduling of bridge inspections.
- 237.105 Bridge inspection procedures.
- 237.107 Special inspections.
- 237.109 Conduct of bridge inspections.
- 237.111 Bridge inspection records.
- 237.113 Review of bridge inspection reports.

**Subpart F—Repair and Modification of Bridges**

- 237.131 Scope.
- 237.133 Design.

- 237.135 Supervision of Repairs and Modifications.

**Subpart G—Documentation, Records and Audits of Bridge Management Programs**

- 237.151 Scope.
- 237.153 Audits, general.
- 237.155 Audits of inspections.
- 237.157 Documents and records.
- Appendix A—Agency Policy on the Safety of Railroad Bridges
- Appendix B—Schedule of Civil Penalties [reserved]

**Authority:** 49 U.S.C. 20102–20114; P.L. 110–432, section 417; 28 U.S.C. 2461, note; and 49 CFR 1.49(oo).

**Subpart A—General****§ 237.1 Scope of part.**

This part prescribes minimum safety requirements for management of railroad bridges which support one or more tracks. This part does not restrict a track owner from adopting and enforcing additional or more stringent requirements not inconsistent with this part.

**§ 237.3 Preemptive effect.**

(a) Under 49 U.S.C. 20106, issuance of these regulations preempts any State law, regulation, or order covering the same subject matter, except an additional or more stringent law, regulation, or order that is necessary to eliminate or reduce an essentially local safety hazard; is not incompatible with a law, regulation, or order of the United States Government; and that does not impose an unreasonable burden on interstate commerce.

(b) This part establishes a Federal standard of care for the maintenance and inspection of railroad bridges. This part does not preempt an action under State law seeking damages for personal injury, death, or property damage alleging that a party has failed to comply with the Federal standard of care established by this part, including a bridge management program required by this part. Provisions of a bridge management program which exceed the requirements of this part are not included in the Federal standard of care.

**§ 237.5 Application.**

(a) Except as provided in paragraphs (b) or (c) of this section, this part applies to all owners of railroad track with a gage of two feet or more and which is supported by a bridge.

(b) This part does not apply to bridges on track used exclusively for rapid transit operations in an urban area that are not connected with the general railroad system of transportation.

(c) This part does not apply to bridges located within an installation which is not part of the general railroad system

of transportation and over which trains are not operated by a railroad.

**§ 237.7 Responsibility for compliance.**

(a) Except as provided in paragraph (b) of this section, an owner of track to which this part applies is responsible for compliance.

(b) If an owner of track to which this part applies assigns responsibility for the bridges which carry the track to another person (by lease or otherwise), written notification of the assignment shall be provided to the appropriate FRA Regional Office at least 30 days in advance of the assignment. The notification may be made by any party to that assignment, but shall be in writing and include the following—

(1) The name and address of the track owner;

(2) The name and address of the person to whom responsibility is assigned (assignee);

(3) A statement of the exact relationship between the track owner and the assignee;

(4) A precise identification of the track segment and the individual bridges in the assignment;

(5) A statement as to the competence and ability of the assignee to carry out the bridge safety duties of the track owner under this part; and

(6) A statement signed by the assignee acknowledging the assignment to him of responsibility for purposes of compliance with this part.

(c) The Administrator may hold the track owner or the assignee or both responsible for compliance with this part and subject to penalties under § 237.11.

(d) A common carrier by railroad which is directed by the Surface Transportation Board to provide service over the track of another railroad under 49 U.S.C. 11123 is considered the owner of that track for the purposes of the application of this part during the period the directed service order remains in effect.

(e) When any person, including a contractor for a railroad or track owner, performs any function required by this part, that person is required to perform that function in accordance with this part.

(f) Where an owner of track to which this part applies has previously assigned responsibility for a segment of track to another person as prescribed in 49 CFR 213.5(c), additional notification to FRA is not required, and the Administrator may hold the track owner or the assignee or both responsible for compliance with this part and subject to penalties under § 237.11.

**§ 237.9 Definitions.**

For the purposes of this part—

*Bridge modification* means a change to the configuration of a railroad bridge that affects the load capacity of the bridge.

*Bridge repair* means remediation of damage or deterioration which has affected the structural integrity of a railroad bridge.

*Railroad bridge* means any structure with a deck, regardless of length, which supports one or more railroad tracks, and any other undergrade structure with an individual span length of 10 feet or more located at such a depth that it is affected by live loads.

*Track owner* means a person responsible for compliance in accordance with § 237.7 of this chapter.

**§ 237.11 Penalties.**

(a) Any person who violates any requirement of this part or causes the violation of any such requirement is subject to a civil penalty of at least \$650 and not more than \$25,000 per violation, except that: Penalties may be assessed against individuals only for willful violations, and, where a grossly negligent violation or a pattern of repeated violations has created an imminent hazard of death or injury to persons, or has caused death or injury, a penalty not to exceed \$100,000 per violation may be assessed. “Person” means an entity of any type covered under 1 U.S.C. 1, including but not limited to the following: a railroad; a manager, supervisor, official, or other employee or agent of a railroad; any owner, manufacturer, lessor, or lessee of railroad equipment, track, or facilities; any independent contractor providing goods or services to a railroad; any employee of such owner, manufacturer, lessor, lessee, or independent contractor; and anyone held by the Federal Railroad Administrator to be responsible under § 237.7(d). Each day a violation continues shall constitute a separate offense. See Appendix B to this part for a statement of agency civil penalty policy.

(b) Any person who knowingly and willfully falsifies a record or report required by this part may be subject to criminal penalties under 49 U.S.C. 21311.

**§ 237.13 Waivers.**

Each petition for a waiver under this section shall be filed in the manner and contain the information required by part 211 of this chapter.

**§ 237.15 Information collection.**

(a) The information collection requirements of this part were reviewed

by the Office of Management and Budget pursuant to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) and are assigned OMB control number XXXX-XXXX.

(b) The information collection requirements are found in the following sections: §§ 237.XX, 237.XX

**Subpart B—Railroad Bridge Safety Assurance****§ 237.31 Scope.**

This subpart prescribes minimum requirements for persons responsible for railroad bridges to implement programs to assure the structural integrity of those bridges and to protect the safe operation of trains over those bridges.

**§ 237.33 Adoption of bridge management programs.**

Each track owner shall adopt a bridge safety management program to prevent the deterioration of railroad bridges by preserving their capability to safely carry the traffic to be operated over them; and reduce the risk of human casualties, environmental damage, and disruption to the Nation’s railroad transportation system that would result from a catastrophic bridge failure, not later than the dates in the following schedule:

(a) (*Effective date of the final rule + 6 months*): Class I carriers;

(b) (*Effective date of the final rule + 6 months*): Owners of track segments which are part of the general railroad system of transportation and which carry more than ten scheduled passenger trains per week;

(c) (*Effective date of the final rule + 12 months*): Class II carriers to which paragraph (b) of this section does not apply; and

(d) (*Effective date of the final rule + 24 months*): All other track owners subject to this part and not described above.

**§ 237.35 Content of bridge management programs.**

Each bridge management program adopted in compliance with this part shall include, as a minimum, the following provisions:

(a) An accurate inventory of railroad bridges, which shall include a unique identifier for each bridge, its location, configuration, type of construction, number of spans, span lengths, and all other information necessary to provide for the management of bridge safety;

(b) A record of the safe load capacity of each bridge;

(c) A provision to obtain and maintain the design documents of each bridge if available, and to document all repairs,

modifications, and inspections of each bridge; and

(d) A bridge inspection program covering as a minimum;

(1) Inspection personnel safety considerations;

(2) Types of inspection including required detail;

(3) Definitions of defect levels along with associated condition codes if condition codes are used;

(4) The method of documenting inspections including standard forms or formats; and

(5) Structure type and component nomenclature; and

(6) Numbering or identification protocol for substructure units, spans, and individual components.

**Subpart C—Qualifications and Designations of Responsible Persons****§ 237.51 Scope.**

This subpart prescribes minimum standards to be incorporated in railroad bridge management programs for qualification and designation of persons who perform safety-critical functions that affect the integrity and safety of railroad bridges.

**§ 237.53 Railroad bridge engineers.**

(a) For the purpose of compliance with this part, a railroad bridge engineer shall be a person who is determined by the track owner to be competent to perform the following functions as they apply to the particular engineering work to be performed:

(1) Determine the forces and stresses in railroad bridges and bridge components;

(2) Prescribe safe loading conditions for railroad bridges;

(3) Prescribe inspection and maintenance procedures for railroad bridges; and

(4) Design repairs and modifications to railroad bridges.

(b) The educational qualifications of a railroad bridge engineer shall include either:

(1) A bachelor’s degree in engineering granted by a school of engineering with at least one program accredited or recognized by the Accreditation Board for Engineering and Technology (ABET) as a professional engineering curriculum, or

(2) Current registration as a professional engineer practicing within his or her licensed scope of practice.

(b) Nothing in this part is meant to affect the States’ authority to regulate the licensure of professional engineers.

**§ 237.55 Railroad bridge inspectors.**

A railroad bridge inspector shall be a person who is determined by the track

owner to be technically competent to view, measure, report and record the condition of a railroad bridge and its individual components which that person is designated to inspect. An inspector shall be designated to authorize or restrict the operation of railroad traffic over a bridge according to its immediate condition or state of repair.

#### **§ 237.57 Railroad bridge supervisors.**

A railroad bridge supervisor shall be a person, regardless of position title, who is determined by the track owner to be technically competent to supervise the construction, modification or repair of a railroad bridge in conformance with common or particular specifications, plans and instructions applicable to the work to be performed, and to authorize or restrict the operation of railroad traffic over a bridge according to its immediate condition or state of repair.

#### **§ 237.59 Designations of individuals.**

Each track owner shall designate those individuals qualified as railroad bridge engineers, railroad bridge inspectors and railroad bridge supervisors. Each individual designation shall include the basis for the designation in effect and shall be recorded.

### **Subpart D—Capacity of Bridges**

#### **§ 237.71 Scope.**

This subpart prescribes minimum standards to be incorporated in railroad bridge management programs to prevent the operation of equipment that could damage a bridge by exceeding safe stress levels in bridge components or by extending beyond the horizontal or vertical clearance limits of the bridge.

#### **§ 237.73 Determination of bridge load capacities.**

(a) Each track owner shall determine the load capacity of each of its railroad bridges. The load capacity need not be the ultimate or maximum load capacity but a safe load capacity.

(b) The load capacity of each bridge shall be documented in the track owner's bridge management program, together with the method by which the capacity was determined.

(c) The determination of load capacity shall be made by a railroad bridge engineer using appropriate engineering methods and standards that are particularly applicable to railroad bridges.

(d) Bridge load capacity may be determined from existing design and modification records of a bridge, provided that the bridge substantially conforms to its recorded configuration.

Otherwise, the load capacity of a bridge shall be determined by measurement and calculation of the properties of its individual components, or other methods as determined by a railroad bridge engineer.

(e) If a track owner has a group of bridges for which the load capacity has not already been determined, the owner shall schedule the evaluation of those bridges according to their relative priority, to be established by a railroad bridge engineer. The initial determination of load capacity shall be completed not later than five years following the date of initial adoption of the track owner's bridge management program in conformance with § 237.33 of this chapter.

(f) Where a bridge inspection reveals that the condition of a bridge or a bridge component might affect the load capacity of the bridge, a new capacity shall be determined by a railroad bridge engineer.

(g) Bridge load capacity may be expressed in terms of numerical values related to a standard system of bridge loads, but shall in any case be stated in terms of weight and length of individual or combined cars and locomotives, for the use of transportation personnel.

(h) Bridge load capacity may be expressed in terms of both normal and maximum load conditions. Operation of equipment that produces forces greater than the normal capacity shall be subject to any restrictions or conditions that may be prescribed by a railroad bridge engineer.

#### **§ 237.75 Protection of bridges from over-weight and over-dimension loads.**

(a) Each track owner shall issue instructions to its personnel who are responsible for the consist and operation of trains over its bridges to prevent the operation of cars, locomotives and other equipment that would exceed the capacity or dimensions of its bridges.

(b) The instructions regarding weight shall be expressed in terms of maximum equipment weights, and either minimum equipment lengths or axle spacing.

(c) The instructions regarding dimensions shall be expressed in terms of feet and inches of cross section and equipment length, in conformance with common railroad industry practice for reporting dimensions of exceptional equipment in interchange in which height above top-of-rail is shown for each cross section measurement, followed by the width of the car or the shipment at that height.

(d) The instructions may apply to individual structures, or to a defined

line segment or group(s) of line segments where the published capacities and dimensions are within the limits of all structures on the subject line segments.

### **Subpart E—Bridge Inspection**

#### **§ 237.101 Scope.**

This subpart prescribes minimum standards to be incorporated in railroad bridge management programs to provide for an effective program of bridge inspections.

#### **§ 237.103 Scheduling of bridge inspections.**

(a) Each bridge management program shall include a provision for scheduling an inspection for each bridge in railroad service at least once in each calendar year, with not more than 540 days between any successive inspections.

(b) A bridge shall be inspected more frequently when a railroad bridge engineer determines that such inspection frequency is necessary considering conditions noted on prior inspections, the type and configuration of the bridge, and the weight and frequency of traffic carried on the bridge.

(c) Each bridge management program shall define requirements for the special inspection of a bridge to be performed whenever the bridge is involved in an event which might have compromised the integrity of the bridge, including but not limited to flood, fire, earthquake, derailment or vehicular or vessel impact.

(d) Any railroad bridge that has not been in railroad service and has not been inspected in accordance with this section within the previous 540 days shall be inspected and the inspection report reviewed by a railroad bridge engineer prior to the resumption of railroad service.

#### **§ 237.105 Bridge inspection procedures.**

(a) Each bridge management program shall specify the procedure to be used for inspection of individual bridges or classes and types of bridges.

(b) The bridge inspection procedures shall be as specified by a railroad bridge engineer who is designated as responsible for the conduct and review of the inspections. The inspection procedures shall incorporate the methods, means of access, and level of detail to be recorded for the various components of that bridge or class of bridges.

(c) The bridge inspection procedures shall ensure that the level of detail and the inspection procedures are appropriate to the configuration of the bridge, conditions found during

previous inspections, and the nature of the railroad traffic moved over the bridge, including equipment weights, train frequency and length, levels of passenger and hazardous materials traffic, and vulnerability of the bridge to damage.

(d) The bridge inspection procedures shall be designed to detect, report and protect deterioration and deficiencies before they present a hazard to safe train operation.

#### **§ 237.107 Special inspections.**

(a) Each bridge management program shall prescribe a procedure for protection of train operations and for inspection of any bridge that might have been damaged by a natural or accidental event, including but not limited to flood, fire, earthquake, derailment or vehicular or vessel impact.

(b) Each bridge management program shall provide for the detection of scour or deterioration of bridge components that are submerged, or that are subject to water flow.

#### **§ 237.109 Conduct of bridge inspections.**

Bridge inspections shall be conducted under the direct supervision of a designated bridge inspector, who shall be responsible for the accuracy of the results and the conformity of the inspection to the bridge management program.

#### **§ 237.111 Bridge inspection records.**

(a) Each track owner to which this part applies shall keep a record of each inspection required to be performed on those bridges under this part.

(b) Each record of an inspection under the bridge management program prescribed in this part shall be prepared from notes taken on the day(s) the inspection is made, supplemented with sketches and photographs as needed. Such record will be dated with the date(s) the physical inspection takes place and signed or otherwise certified by the person making the inspection.

(c) Each bridge management program shall specify that every bridge inspection report shall include, as a minimum, the following information:

- (1) A precise identification of the bridge inspected;
- (2) The date on which the inspection was completed;
- (3) The identification and written or electronic signature of the inspector;
- (4) The type of inspection performed, in conformance with the definitions of inspection types in the bridge management program;
- (5) An indication on the report as to whether any item noted thereon requires expedited or critical review by

a railroad bridge engineer, and any restrictions placed at the time of the inspection; and

(6) The condition of components inspected, which may be in a condition reporting format prescribed in the bridge management program, together with any narrative descriptions necessary for the correct interpretation of the report.

(d) An initial report of each bridge inspection shall be placed in the location designated in the bridge management program within 14 calendar days of the completion of the inspection. The initial report shall include the information required by paragraphs (c)(1) through (c)(5) of this section.

(e) A complete report of each bridge inspection, including as a minimum the information required in paragraphs (c)(1) through (c)(6) of this section, shall be placed in the location designated in the bridge management program within 45 calendar days of the completion of the inspection.

(f) Each bridge inspection program shall specify the retention period and location for bridge inspection records. The retention period shall be no less than two years following the completion of the inspection, or until the completion of the next two inspections of the same type, whichever is longer.

#### **§ 237.113 Review of bridge inspection reports.**

Bridge inspection reports shall be reviewed by railroad bridge supervisors and railroad bridge engineers to:

- (a) Determine whether inspections have been performed in accordance with the prescribed schedule and specified procedures;
- (b) Evaluate whether any items on the report represent a present or potential hazard to safety;
- (c) Prescribe any modifications to the inspection procedures for that particular bridge;
- (d) Schedule any repairs or modifications to the bridge required to maintain its structural integrity; and
- (e) Determine the need for further higher-level review.

### **Subpart F—Repair and Modification of Bridges**

#### **§ 237.131 Scope.**

This subpart prescribes minimum standards to be incorporated in railroad bridge management programs to provide for adequate design and effective supervision of bridge modification and repair which will materially modify the capacity of the bridge or the stresses in any primary load-carrying component of the bridge.

#### **§ 237.133 Design.**

Each repair or modification to a bridge pursuant to this part shall be designed by a railroad bridge engineer. The design shall specify the manner in which railroad traffic or other live loads may be permitted on the bridge while it is being modified or repaired. Designs and procedures for repair or modification of bridges of a common configuration, such as timber trestles, or instructions for in-kind replacement of bridge components, may be issued as a common standard.

#### **§ 237.135 Supervision.**

Each repair or modification pursuant to this part shall be performed under the immediate supervision of a railroad bridge supervisor as defined in § 237.57 of this part and who is designated and authorized by the track owner to supervise the particular work to be performed. The railroad bridge supervisor shall ensure that railroad traffic or other live loads permitted on the bridge under repair or modification are in conformity with the specifications in the design.

### **Subpart G—Documentation, Records and Audits of Bridge Management Programs**

#### **§ 237.151 Scope.**

This subpart prescribes minimum standards to be incorporated in railroad bridge management programs to provide for verification of the effectiveness of the program and the accuracy of the information developed thereby, by the track owner as well as by the Federal Railroad Administration.

#### **§ 237.153 Audits; general.**

Each program adopted to comply with this part shall include provisions for auditing the effectiveness of the several provisions of that program, including the validity of bridge inspection reports and bridge inventory data, and the correct application of movement restrictions to railroad equipment of exceptional weight or configuration.

#### **§ 237.155 Audits of inspections.**

(a) Each bridge management program shall incorporate provisions for an internal audit to determine whether the inspection provisions of the program are being followed, and whether the program itself is effectively providing for the continued safety of the subject bridges.

(b) The inspection audit shall include an evaluation of a representative sampling of bridge inspection reports at the bridges noted on the reports to determine whether the reports

accurately describe the condition of the bridge.

#### **§ 237.157 Documents and records.**

Each track owner required to implement a bridge management program and keep records under this part shall make those program documents and records available for inspection and reproduction by the Federal Railroad Administration.

(a) *Electronic recordkeeping; general.* For purposes of compliance with the recordkeeping requirements of this part, a railroad may create and maintain any of the records required by this part through electronic transmission, storage, and retrieval provided that all of the following conditions are met:

(1) The system used to generate the electronic record meets all requirements of this subpart;

(2) The electronically generated record contains the information required by this part;

(3) The railroad monitors its electronic records database through sufficient number of monitoring indicators to ensure a high degree of accuracy of these records; and

(4) The railroad shall train its employees who use the system on the proper use of the electronic recordkeeping system.

(5) The railroad maintains an information technology security program adequate to ensure the integrity of the system, including the prevention of unauthorized access to the program logic or individual records.

(b) *System security.* The integrity of the program and database must be protected by a security system that utilizes an employee identification number and password, or a comparable method, to establish appropriate levels of program access meeting all of the following standards:

(1) No two individuals have the same electronic identity;

(2) A record cannot be deleted or altered by any individual after the record is certified by the employee who created the record;

(3) Any amendment to a record is either—

(i) Electronically stored apart from the record that it amends, or

(ii) Electronically attached to the record as information without changing the original record;

(4) Each amendment to a record uniquely identifies the person making the amendment; and

(5) The electronic system provides for the maintenance of inspection records as originally submitted without corruption or loss of data.

#### **Appendix A to Part 237—Supplemental Agency Statement of Policy on the Safety of Railroad Bridges**

A Statement of Agency Policy on the Safety of Railroad Bridges was originally published by FRA in 2000 as Appendix C of the Federal Track Safety Standards, 49 CFR Part 213. With the promulgation of 49 CFR Part 237, Railroad Bridge Safety Standards, many of the non-regulatory provisions in that Policy Statement have been incorporated into the bridge safety standards.

However, FRA has determined that other non-regulatory items are still useful as information and guidance for track owners. Those provisions of the Policy Statement are therefore retained and placed in this Appendix in lieu of their former location in the Track Safety Standards.

##### **General**

1. The structural integrity of bridges that carry railroad tracks is important to the safety of railroad employees and to the public. The responsibility for the safety of railroad bridges is specified in § 237.7, "Responsibility for Compliance."

2. The capacity of a bridge to safely support its traffic can be determined only by intelligent application of engineering principles and the law of physics. Track owners should use those principles to assess the integrity of railroad bridges.

3. The long term ability of a structure to perform its function is an economic issue beyond the intent of this policy. In assessing a bridge's structural condition, FRA focuses on the present safety of the structure, rather than its appearance or long term usefulness.

4. FRA inspectors conduct regular evaluations of railroad bridge inspection and management practices. The objective of these evaluations is to document the practices of the evaluated railroad, to disclose any program weaknesses that could affect the safety of the public or railroad employees, and to assure compliance with the terms of this regulation. If the evaluation discloses problems, FRA seeks a cooperative resolution. If safety is jeopardized by a track owner's failure to resolve a bridge problem, FRA will use appropriate measures, including assessing civil penalties and issuance of emergency orders, to protect the safety of railroad employees and the public.

5. This policy statement addresses the integrity of bridges that carry railroad tracks. It does not address the integrity of other types of structures on railroad property (*i.e.* tunnels, highway bridges over railroads, or other structures on or over the right-of-way).

6. The guidelines published in this statement are advisory, rather than regulatory, in nature. They supplement the requirements of part 237 and are retained for information and guidance.

##### **Guidelines**

##### **1. Responsibility for Safety of Railroad Bridges**

(a) The responsibility for the safety of railroad bridges is specified in § 237.7.

(b) The track owner should maintain current information regarding loads that may be operated over the bridge, either from its

own engineering evaluations or as provided by a competent engineer representing the track owner. Information on permissible loads may be communicated by the track owner either in terms of specific car and locomotive configurations and weights, or as values representing a standard railroad bridge rating reference system. The most common standard bridge rating reference system incorporated in the Manual for Railway Engineering of the American Railway Engineering and Maintenance of Way Association is the dimensional and proportional load configuration devised by Theodore Cooper. Other reference systems may be used where convenient, provided their effects can be defined in terms of shear, bending and pier reactions as necessary for a comprehensive evaluation and statement of the capacity of a bridge.

(c) The owner of the track on a bridge should advise other railroads operating on that track of the maximum loads permitted on the bridge stated in terms of car and locomotive configurations and weights. No railroad should operate a load which exceeds those limits without specific authority from, and in accordance with restrictions placed by, the track owner.

##### **2. Capacity of Railroad Bridges**

(a) The safe capacity of bridges should be determined pursuant to § 237.73.

(b) Proper analysis of a bridge requires knowledge of the actual dimensions, materials and properties of the structural members of the bridge, their condition, and the stresses imposed in those members by the service loads.

(c) The factors which were used for the design of a bridge can generally be used to determine and rate the load capacity of a bridge provided:

(i) The condition of the bridge has not changed significantly; and

(ii) The stresses resulting from the service loads can be correlated to the stresses for which the bridge was designed or rated.

##### **3. Railroad Bridge Loads**

(a) Control of loads is governed by § 237.75.

(b) *Authority for exceptions.* Equipment exceeding the nominal weight restriction on a bridge should be operated only under conditions determined by a competent railroad bridge engineer who has properly analyzed the stresses resulting from the proposed loads and has determined that the proposed operation can be conducted safely without damaging the bridge.

(c) *Operating conditions.* Operating conditions for exceptional loads may include speed restrictions, restriction of traffic from adjacent multiple tracks, and weight limitations on adjacent cars in the same train.

##### **4. Railroad Bridge Records**

(a) The organization responsible for the safety of a bridge should keep design, construction, maintenance and repair records readily accessible to permit the determination of safe loads. Having design or rating drawings and calculations that conform to the actual structure greatly simplifies the process of making accurate

determinations of safe bridge loads. This provision is governed by § 237.35.

(b) Organizations acquiring railroad property should obtain original or usable copies of all bridge records and drawings, and protect or maintain knowledge of the location of the original records.

#### *5. Specifications for Design and Rating of Railroad Bridges*

(a) The recommended specifications for the design and rating of bridges are those found in the Manual for Railway Engineering published by the American Railway Engineering and Maintenance-of-way Association. These specifications incorporate recognized principles of structural design and analysis to provide for the safe and economic utilization of railroad bridges during their expected useful lives. These specifications are continually reviewed and revised by committees of competent engineers. Other specifications for design and rating, however, have been successfully used by some railroads and may continue to be suitable.

(b) A bridge can be rated for capacity according to current specifications regardless of the specification to which it was originally designed.

#### *6. Periodic Inspections of Railroad Bridges*

(a) Periodic bridge inspections by competent inspectors are necessary to determine whether a structure conforms to its design or rating condition and, if not, the degree of nonconformity. See § 237.103. Section 237.103(a) calls for every railroad bridge to be inspected at least once in each calendar year. Deterioration or damage may occur during the course of a year regardless of the level of traffic that passes over a bridge. Inspections at more frequent intervals may be required by the nature or condition of a structure or intensive traffic levels.

#### *7. Underwater Inspections of Railroad Bridges*

(a) Inspections of bridges should include measuring and recording the condition of substructure support at locations subject to erosion from moving water.

(b) Stream beds often are not visible to the inspector. Indirect measurements by sounding, probing, or any other appropriate means are necessary in these cases. A series of records of these readings will provide the best information in the event unexpected changes suddenly occur. Where such indirect measurements do not provide the necessary assurance of foundation integrity, diving inspections should be performed as prescribed by a competent engineer.

#### *8. Seismic Considerations*

(a) Owners of bridges should be aware of the risks posed by earthquakes in the areas in which their bridges are located. Precautions should be taken to protect the safety of trains and the public following an earthquake.

(b) Contingency plans for seismic events should be prepared in advance, taking into account the potential for seismic activity in an area.

(c) The predicted attenuation of ground motion varies considerably within the United

States. Local ground motion attenuation values and the magnitude of an earthquake both influence the extent of the area affected by an earthquake. Regions with low frequency of seismic events produce less data from which to predict attenuation factors. That uncertainty should be considered when designating the area in which precautions should be taken following the first notice of an earthquake. In fact, earthquakes in such regions might propagate their effects over much wider areas than earthquakes of the same magnitude occurring in regions with frequent seismic activity.

#### *9. Special Inspections of Railroad Bridges*

Requirements for special inspections of railroad bridges are found in § 237.107.

#### *10. Railroad Bridge Inspection Records*

(a) The requirement for recording and reporting bridge inspections is found in § 237.111.

(b) Information from bridge inspection reports should be incorporated into a bridge management program to ensure that exceptions on the reports are corrected or accounted for. A series of inspection reports prepared over time should be maintained so as to provide a valuable record of trends and rates of degradation of bridge components. The reports should be structured to promote comprehensive inspections and effective communication between an inspector and an engineer who performs an analysis of a bridge.

(c) An inspection report should be comprehensible to a competent person without interpretation by the reporting inspector.

#### *11. Railroad Bridge Inspectors and Engineers*

(a) Bridge inspections should be performed by technicians whose training and experience enable them to detect and record indications of distress on a bridge. Inspectors should provide accurate measurements and other information about the condition of the bridge in enough detail so that an engineer can make a proper evaluation of the safety of the bridge. Qualifications of personnel are addressed in Subpart C to part 237.

(b) Accurate information about the condition of a bridge should be evaluated by an engineer who is competent to determine the capacity of the bridge. The inspector and the evaluator often are not the same individual; therefore, the quality of the bridge evaluation depends on the quality of the communication between them. Review of inspection reports is addressed in § 237.113.

#### *12. Scheduling Inspections*

(a) A bridge management program should include a means to ensure that each bridge under the program is inspected at the frequency prescribed for that bridge by a competent engineer. Scheduling of bridge inspections is addressed in § 237.103.

(b) Bridge inspections should be scheduled from an accurate bridge inventory list that includes the due date of the next inspection.

#### *13. Special Considerations for Railroad Bridges*

Railroad bridges differ from other types of bridges in the types of loads they carry, in

their modes of failure and indications of distress, and in their construction details and components. Proper inspection and analysis of railroad bridges require familiarity with the loads, details and indications of distress that are unique to this class of structure. Particular care should be taken that modifications to railroad bridges, including retrofits for protection against the effects of earthquakes, are suitable for the structure to which they are to be applied. Modifications should not adversely affect the serviceability of either the bridge or its accessibility for periodic or special inspection.

#### *14. Railroad Implementation of Bridge Safety Programs*

FRA recommends that each track owner or other entity which is responsible for the integrity of bridges which support its track should comply with the intent of this regulation by adopting and implementing an effective and comprehensive program to ensure the safety of its bridges. The bridge safety program should incorporate the following essential elements, applied according to the configuration of the railroad and its bridges. The basis of the program should be in one comprehensive and coherent document which is available to all railroad personnel and other persons who are responsible for the application of any portion of the program. The program should include:

(a) Clearly defined roles and responsibilities of all persons who are designated or authorized to make designations regarding the integrity of the track owner's bridges. The definitions may be made by position or by individual;

(b) Provisions for a complete inventory of bridges that carry the owner's track, to include the following information on each bridge:

(1) A unique identifier, such as milepost location and a subdivision code;

(2) The location of the bridge by nearest town or station, and geographic coordinates;

(3) The name of the geographic features crossed by the bridge;

(4) The number of tracks on the bridge;

(5) The number of spans in the bridge;

(6) The lengths of the spans; and

(7) Types of construction of:

(i) Substructure;

(ii) Superstructure; and

(iii) Deck;

(8) Overall length of the bridge;

(9) Dates of:

(i) Construction;

(ii) Major renovation; and

(iii) Strengthening; and

(10) Identification of entities responsible for maintenance of the bridge or its different components.

(c) Known capacity of its bridges as determined by rating by competent railroad bridge engineers or by design documents;

(d) Procedures for the control of movement of high, wide or heavy loads exceeding the nominal capacity of bridges;

(e) Instructions for the maintenance of permanent records of design, construction, modification, and repair;

(f) Railroad-specific procedures and standards for design and rating of bridges;

(g) Detailed bridge inspection policy, including:

(1) Inspector Qualifications; including  
(i) Bridge experience or appropriate educational training;  
(ii) Training on bridge inspection procedures; and  
(iii) Training on Railroad Workplace Safety;  
(2) Type and frequency of inspection; including  
(i) Periodic (at least annually);  
(ii) Underwater;  
(iii) Special;  
(iv) Seismic; and  
(v) Cursory inspections of overhead bridges that are not the responsibility of the railroad;  
(3) Inspection schedule for each bridge;

(4) Documentation of inspections; including  
(i) Date;  
(ii) Name of inspector;  
(iii) Reporting Format; and  
(iv) Coherence of information;  
(5) Inspection Report Review Process;  
(6) Record retention; and  
(7) Tracking of critical deficiencies to resolution.  
(h) Provide for the protection of train operations following an inspection, noting a critical deficiency, repair, modification or adverse event and should include:  
(1) A listing of qualifications of personnel permitted to authorize train operations following an adverse event; and

(2) Detailed internal program audit procedures to ensure compliance with the provisions of the program.

**Appendix B to Part 237—Schedule of Civil Penalties [Reserved]**

Issued in Washington, DC, on August 7, 2009.

**Joseph C. Szabo,**

*Federal Railroad Administrator.*

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