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49 CFR Parts 213 and 237
Bridge Safety Standards; Final Rule

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

49 CFR Parts 213 and 237

[Docket No. FRA 2009–0014, Notice No. 2]

RIN 2130–AC04

Bridge Safety Standards

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

ACTION: Final rule.

SUMMARY: FRA is establishing Federal safety requirements for railroad bridges. This final rule requires track owners to implement bridge management programs, which include annual inspections of railroad bridges, and to audit the programs. This final rule also requires track owners to know the safe load capacity of bridges and to conduct special inspections if the weather or other conditions warrant such inspections.

DATES: This final rule is effective September 13, 2010.

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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 bridges. 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 allowed on a bridge only with 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 1830s 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 in damages to railroad facilities, cars and locomotives.

B. Guidelines

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 on the Safety of Railroad Bridges ("policy statement"). See 65 FR 52667. 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 contained 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 110–432, Division A ("RSIA"). Section 417 of the RSIA directs FRA to issue regulations requiring railroad track owners to adopt and follow specific procedures to protect the safety of their bridges. 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 Railroad 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. See 74 FR 157. All aspects of the policy statement that are not incorporated into the regulatory text of part 237 are now found in its appendix A.

C. Regulatory History

On August 17, 2009, FRA issued a Notice of Proposed Rulemaking (NPRM) as a first step in the agency's promulgation of bridge safety

regulations as mandated by the RSIA. See 74 FR 41558. FRA received comments from eight parties, including two professional engineers, the Alaska Railroad Corporation, Maryland Department of Transportation ("Maryland DOT"), Iowa Department of Transportation ("Iowa DOT"), RailAmerica, the American Short Line and Regional Railroad Association (ASLRRA), and the Association of American Railroads (AAR). FRA will address the concerns raised by the comments in the text below.

This final rule is the culmination of FRA's efforts to develop and promulgate bridge safety standards. In the Section-by-Section Analysis, below, FRA will discuss how the regulatory text addresses each portion of the RSIA.

II. Railroad 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 plays 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. RSAC Railroad Bridge Working Group

RSAC on February 20, 2008, agreed to accept the task of reviewing FRA's railroad bridge safety policies and activities, and to make appropriate recommendations to FRA to improve the bridge safety program. RSAC accordingly established a Railroad Bridge Working Group (Working Group), composed of representatives of the various organizations on the RSAC and including persons with particular expertise in railroad bridge safety and management. The Working Group met on April 24–25, 2008, June 12, 2008, and August 7, 2008. On September 10, 2008, the full RSAC voted on the Working Group's report, Essential Elements of Railroad Bridge Management Programs, and recommended that FRA incorporate it into FRA's Statement of Agency Policy on the Safety of Railroad Bridges. The Working Group 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 Working Group reached consensus on proposed regulatory text which made up most of the provisions of the NPRM.

After the NPRM comment period closed, the Working Group reconvened on December 15, 2009, to review the comments and offer additional advice on how FRA should proceed with the final rule. Due to time constraints, FRA elected to seek advice from the Working Group regarding the public comments and possible revisions to the NPRM rather than asking the group and the full RSAC to formally provide recommendations regarding the final rule.

IV. Response to Public Comment

As mentioned above, FRA received eight comments to the NPRM. Comments were submitted by a variety of affected parties, including individual professional engineers, the Alaska Railroad Corporation, RailAmerica, two state DOTs, the AAR and the ASLRRA. FRA reviewed the comments with the Working Group and FRA staff also extensively reviewed and evaluated the

comments. In this section, FRA will respond to comments regarding the application of the bridge rule, the responsibility for compliance, definitions, adoption of bridge management programs, the definition of a railroad bridge engineer, the determination of bridge load capacities, bridge inspection records, and other general comments. FRA is also responding to some of the smaller concerns within the section-by-section analysis.

Application

Mr. Wayne Duffet, P.E., commented that FRA proposed that this part apply to tourist railroads because the passengers on those railroads are entitled to the protection afforded by this rule. He observed that, as written, the rule applies to every bridge with a gauge of two feet or more, that handles trains, regardless of whether part of the general railroad system. The comment requests clarification on two points: whether the rule applies to a tourist railroad that is not part of the general railroad system, and whether the rule applies to a two-foot gage bridge within an amusement park.

FRA notes that a "tourist railroad" comes under the uniform FRA definition of the term "railroad" as found at 49 CFR 209.3 and within the meaning of the Federal railroad safety statutes as found at 49 U.S.C. 20102(1)(A). Tourist railroads move passengers by the use of track and equipment that, taken together, would commonly be described as a "railroad," and their operations pose a distinct risk to the safety of the public. "An installation which is not part of the general railroad system of transportation and over which trains are not run by a railroad" refers to tracks located within an industrial operation where rolling equipment is moved only by and for the account of that particular industry. If a railroad as defined in 49 CFR 209.3 operates over a bridge inside such an installation, then this regulation applies to that bridge and to the owner of track on that bridge.

Specifically as to tourist railroad operations, FRA exercises jurisdiction over tourist operations whether or not they are conducted on the "general railroad system of transportation" ("general system"), which is defined as "the network of standard gage track over which goods may be transported throughout the nation." Appendix A to 49 CFR part 209. The only exceptions where FRA typically does not exercise jurisdiction are for tourist operations on track gage that is less than 24 inches and tourist operations that are off of the general system and are "insular." A tourist operation is considered "insular" if its operations are limited to a separate enclave in such a way that there is no reasonable expectation that the safety of any member of the public—except a business guest, a licensee of the tourist operation or an affiliated entity, or a trespasser—would be affected by the operation. Appendix A to 49 CFR part 209. FRA does, however, exercise limited jurisdiction over tourist railroads that do not operate on the general system, but that are non-insular. Specifically, FRA will consider a railroad to be non-insular if one or more of the following exist on its line: A public highway-rail crossing that is in use; an at-grade rail crossing that is in use; a bridge over a public road or waters used for commercial navigation; or a common corridor with another railroad. Appendix A to 49 CFR part 209. With respect to this rule, FRA is exercising jurisdiction over all tourist and excursion operations regardless of whether they are insular or not.

Maryland DOT requested an explanation of the definition of the "general railroad system of transportation" as it applies to urban rapid transit operations as set forth in the rule. FRA replies that § 237.1(b) is consistent with 49 U.S.C. 20102(1)(B) and 49 CFR 213.3(b)(2), which exempt "track used exclusively for rapid transit operations in urban areas that are not connected with the general system of transportation" from the application of that regulation. If an urban rapid transit system operates over the general system, FRA will exercise jurisdiction over the urban rapid transit operation to the extent that it is connected to the general system. In situations in which an urban rapid transit operation has a minor connection to the general system, i.e., at a highway-rail grade crossing, FRA will exercise limited jurisdiction over the urban rapid transit system and only to the extent necessary to ensure safety at the points of connection for that system, the general system, and the public.

Responsibility for compliance

AAR noted that there are numerous tracks on railroad bridges that have been leased by their owners to other companies. The proposed bridge rule attempted to account for these historical leases by providing that where an owner of the track over the bridge has assigned responsibility for the track to another company and FRA has been notified pursuant to 49 CFR 213.5(c), additional notification under part 237 for the bridge is not needed. This is because part 237 places responsibility for the bridge with the person to whom responsibility for the track has been assigned and recognized pursuant to part 213. AAR is concerned that there will be situations where notification pursuant to § 213.5(c) has not taken place, and argues that notification might not have taken place because the lease was entered into before § 213.5 was adopted. AAR explains that there might be other reasons notification did not take place or a railroad might simply be unable to determine whether notification occurred. If it cannot be established that notification did occur, AAR argues that the rule, literally interpreted, might not permit FRA to hold the lessee responsible for compliance even though, as a practical matter, the lessee controls the track and bridge and is performing all functions related to track and bridge safety. AAR suggests FRA address the issue of historical leases by adding regulatory text which states that FRA may hold a lessee of track to which this part applies responsible for compliance with this part where the lessee exercises control over the track.

This provision follows the use of the term "owner of track" in the Track Safety Standards at 49 CFR part 213. FRA believes that it would be confusing and inconsistent for FRA to define an "owner of track" differently in two different parts of the Rail Safety Standards. FRA advises an owner of track to resubmit a notification of assignment if the owner is uncertain whether an assignment has been made. However, assignment does not relieve a track owner of compliance with part 237, as § 237.3(c) states that FRA can always hold the track owner responsible for compliance with the bridge safety standards.

Maryland DOT noted that its state highway administration, and several counties in the state, own and inspect several railroad-carrying bridges. Unstated, but implicit in the comment, is that while the state highway administration owns the bridge, the track is owned by a third party. Maryland DOT states that in accordance with this section, however, the state highway administration would not be responsible for compliance with this rule, since the "track owner" is responsible. In addition, several counties own railroad-carrying bridges as well.

FRA replies that the rule does not alter the financial responsibility of a highway agency that owns, inspects and maintains railroad bridges. The rule does, however, hold the track owner responsible to assure that the inspections and maintenance are performed correctly by qualified and

designated persons. The track owner would be permitted to accept work performed by a highway agency provided that it conforms to the requirements of this part. FRA also notes that instances have arisen in which state agencies have performed inspections and evaluations in which a state-owned railroad bridge was found to be seriously deficient, and where the operating railroad was never notified or advised of the problem. FRA accident records include at least one such instance in which the bridge failed under a train, resulting in a catastrophic train accident, an accident which occurred on the Southern Railroad of New Jersey on August 12, 1999. This provision is intended, partly, to prevent such a loss of vital communication among the concerned parties

Maryland DOT also questions whether the track owner could assign responsibility to someone else. If one of these railroads requests the state agency to be the responsible party for the FRA inspection, they would consider refusing the request because they would have to be in compliance with the whole program, which would require a railroad bridge engineer, railroad bridge inspectors and a railroad bridge management program.

FRA responds that, in any case of assignment of responsibility, the assignee must first accept the assignment before it can become effective. See § 237.3(b)(6). The final rule states that the track owner must send a written notification of assignment to FRA at least 30 days in advance of the assignment, and that the notification must include a statement signed by the assignee acknowledging the assignment. A notification that did not include an acknowledging statement would not comply with § 237.3(b)(6), and FRA would disregard the assignment.

Definitions

FRA received three comments regarding the definition of a railroad bridge. The comments suggested that the definition of a railroad bridge is either not broad enough or too broad and that there is an inconsistency between the definition of a railroad bridge and the Federal Highway Administration's (FHWA) definition of a bridge. FRA intends the explanations in this response to clarify that the definition of a railroad bridge is consistent with long-held industry practice and is neither too broad nor too narrow.

One commenter suggested that the definition of a bridge be changed to "any structure with an open deck." FRA replies that the regulatory definition of a bridge includes open decks, ballast decks, and solid decks. Essentially, a bridge deck is the component of the bridge upon which the track is supported, and which is subject to bending stresses from trains moving over it.

Another comment requests an explanation of an apparent inconsistency between the definition of a railroad bridge in this rule, and the definition of a bridge used by the FHWA, which defines a bridge as a structure with a span length of 20 feet or more. FRA responds that railroad bridges differ greatly from highway bridges in many respects, particularly in regard to the nature of the heavy live load which they support. This definition represents the consensus of all parties in the Working Group and is consistent with long-held railroad industry practice.

A third commenter suggests that the railroad bridge definition is broad and potentially includes types of structures that are affected by track live loads that have not previously been managed as bridges. These structures may include waterfront structures such as piers and wharves, mechanical shop structures including drop tables and inspection pits, as well as scales, large culverts and potentially even various types of retaining walls that have under-grade structural layout features that could be interpreted to be span lengths of 10 feet or more.

FRA replies that piers and wharves, scales, and other structures that carry railroad track and meet the span definition of a bridge are included under this regulation. Retaining walls and other roadbed structures are not included, because they do not carry track on a span over a gap. Additionally, culverts with a span of 10 feet or greater are also subject to this regulation and must be included in track owner's bridge management program.

Adoption of Bridge Management Programs

Three comments addressed concerns with the adoption of bridge management programs. Maryland DOT asked if the regulations "distinguish between Transit Railroads or short-lines, or rail traffic volume," and requested that FRA define Class I and II carriers and the general railroad system. ASLRRA remarks that some design documents for each bridge might be difficult, if not impossible, to obtain. ASLRRA proposes that all documentation required by the rule be completed no later than five years following the program's adoption. This would allow for the search and retrieval, or replication, of required documentation over more realistic time frames, as well as the allocation of necessary expense over a longer, and possibly less impacting, period of time. The Alaska Railroad Corporation requests that the bridge management program adoption time be extended to the effective date of the final rule plus one year. The additional time is necessary for inventory and database development of all structures covered by the regulation, as seasonal climatic conditions will potentially make some of these structures on the Alaska Railroad inaccessible until early summer 2010.

With regard to the first concern, FRA replies that the Surface Transportation Board defines the class of railroad at 49 CFR part 1201, based on the carrier's annual operating revenue. This section specifies time periods for program adoption according to the type of railroad, not according to railroad traffic volume or load intensity. By "general railroad system of transportation," FRA refers to the network of standard gage track over which goods may be transported throughout the nation and passengers may travel between cities and within metropolitan and suburban areas. See appendix A to 49 CFR part 209.

Regarding the second comment, ASLRRA's proposal is consistent with the proposed rule. Pursuant to § 237.33(c), the program, when adopted by a track owner, need only incorporate 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. There is no deadline for acquisition of these documents. FRA anticipates that the priorities for acquisition of archived bridge design documents would closely follow their usefulness in determining bridge capacities.

To address the Alaska Railroad Corporation's concerns, FRA replies that the bridge inventory need not be complete in all of its details at the time of adoption of a railroad's bridge management program. It is reasonable to expect that an adopted program would specify the format for recording the inventory information, or "bridge list," and that information readily available from existing records, such as valuation maps, could be used to initially populate the data base. After that, additions and refinements to that information would be generated by normal inspection work.

Railroad Bridge Engineer

AAR noted in its comment that the NPRM reference to the "Accreditation Board for Engineering and Technology (ABET)" is obsolete in that the organization has changed its name to ABET, Inc. AAR further notes that ABET Inc. only accredits engineering education programs in the United States, but mutually recognizes programs accredited by corresponding organizations in other nations. The same commenter notes an ambiguity in the term "licensed scope of practice" as it applies to the professional practice of engineering.

FRA acknowledges the concern regarding ABET, Inc., and has changed the reference in the regulatory text to ABET, Inc., or its successor. FRA did not intend to exclude engineers who received their education in other nations from being recognized as railroad bridge engineers, and has amended the text to specify that, in order to fulfill the educational requirements of this section, a railroad bridge engineer can also have received a degree from a program accredited as a professional engineering curriculum by a foreign organization recognized by ABET, Inc. or its successor. FRA has clarified the ambiguity commented on in the language of the NPRM by stating that a railroad bridge engineer can also be considered to have fulfilled the educational requirements of this section if he or she is currently registered as a professional engineer. FRA notes that state law governing the professional practice of engineering requires that professional engineers limit the subject of their practice to areas in which they are competent.

RailAmerica commented that nothing in this section speaks to the competence of an engineer as a railroad bridge engineer. FRA replies that the determination of the competence of a railroad bridge engineer is left to the track owner. FRA does not intend to engage in qualifying individuals to perform those functions. That determination will have to be made by the track owner after review of the engineer's qualifications and experience in the light of the qualification requirements of this part. The employer or the client of an engineer has always had the prerogative and responsibility to determine the qualifications of that individual, and FRA does not propose to alter that relationship.

Determination of Bridge Load Capacities

One commenter remarked on the difficulty of assigning a precise capacity rating to a timber bridge owing to the wide variations in the properties of timber material and the changes that occur to timber components over time. FRA recognizes that the evaluation of timber trestles is not an exact science. Although theoretical values of safe forces and stresses can be placed on individual timber components, the actual nature of wood varies widely, even within the same species. In addition, timber deteriorates over time and under repeated loads. Some timber bridge components are not easily inspected, especially where faces of the members are hidden by other adjacent or supported members. A load rating on a timber bridge must also account for time and for expected costs to maintain the bridge under its rated traffic. An engineer can raise the capacity of a timber trestle from 263,000- to 286,000-pound cars, for instance, but the owner must be advised that increased maintenance costs will probably result, and that a more intensive inspection program must be instituted for that bridge, owing to the more rapid deterioration that will occur.

The same commenter also suggested that a revised rating not be required where an existing, valid rating provides a large margin of capacity above the loads that are actually operated. The rule text has been slightly modified to address that issue with a realistic solution. FRA has revised § 237.71(f) to state that a new bridge load capacity shall be determined, if, in the opinion of the railroad bridge engineer, a bridge inspection reveals that the condition of a bridge or a bridge component might adversely affect the ability of the bridge to carry the traffic being operated. This issue is also addressed further in the section-by-section analysis, below.

The same commenter also noted the difficulty of assigning a precise rating to many older concrete and masonry structures that are not well documented, and of which the internal configuration cannot be easily determined. FRA recognizes that many older concrete and masonry structures are not documented. Especially in the case of reinforced concrete, the configuration of reinforcing steel greatly affects the calculated capacity of the bridge. The analysis of brick and stone arches is possible, but the unknown variables can produce widely differing results. The practice to date in the railroad bridge engineering profession has been to observe these structures for any obvious signs of distress, and to rate them based on their condition at the time of inspection. FRA will accept the reasonable application of present methods for evaluating and managing these structures, because there is not a history of sudden catastrophic failure, absent sudden damage from severe weather conditions or heavy water flows.

ASLRRA commented that "an individual trained as a bridge supervisor and inspector with many years of experience inspecting a bridge that itself has been in place for many years, is fully qualified to determine whether that bridge has the capacity to carry the loads for which it is rated. Under normal bridge inspection procedures, if the bridge shows signs of problems, a bridge inspector usually 'rates' a bridge each time he inspects it. If problems are encountered, additional steps will be taken to address the problem in accordance with these regulations. Rating an old masonry arch or bridge span may be difficult to do even for a railroad bridge engineer. While a number of bridges have been upgraded on many short lines and capacity rating calculations are available for those bridges, many more have not been upgraded and are performing well." FRA responds that there is a clear distinction between what some consider a "condition rating" ascribed to a bridge by an inspector, and a "capacity rating" which is determined by a qualified engineer. The term "rating" in the context of this rule refers only to a "capacity rating." This rule does not address a "condition rating" to be applied to a bridge.

A bridge inspector or supervisor who is not an engineer can certainly determine by observation and measurement whether the condition and configuration of a bridge corresponds with its state when it was rated by an engineer for capacity. However, if the bridge displays a condition or deterioration that materially affects its capacity, as by increasing the stress intensity in one or more components of the bridge, accurate determination of the revised capacity requires the experience, education and training of a competent railroad bridge engineer. In the same manner, the determination of the capacity of an existing bridge requires that the engineer should consider all available information related to the configuration and condition of the bridge, including all available design and modification documents and current reports of inspections. These determinations of bridge capacity ratings are usually performed in an office environment, and only seldom in the field.

RailAmerica commented that the rule would require bridge ratings to be completed within 5 years of the adoption of a Bridge Management System. This provision would penalize

those railroads which have adopted a bridge management program before the final date required in the rule. FRA agrees with this comment. The rule has been modified so that the determinations of load capacity are required within five years of the required date for adoption of the bridge management program, rather than the actual date of adoption if earlier than required.

Bridge Inspection Records

Several commenters suggested that the interim bridge inspection report be deleted from the rule, or that the time period for its submission be extended. Several also suggested that the time period for submission of the complete inspection report be extended. FRA understands that the regulated community is reluctant to see the imposition of record-keeping requirements that might not correspond with their current practices. However, bridge inspections performed by or for the track owner are a critical function which must be monitored in the enforcement process. Since FRA cannot be present on-site at each bridge inspection, the agency must see a record that shows that the inspection was performed, when and by whom it was performed, and the conditions found in the inspection. If there were no time requirements for recording inspections, it would be impossible for FRA to effectively monitor this vital function.

FRA views the interim report as a management tool in the bridge program audit to show whether bridge inspections are being performed at or near their scheduled frequency, with ample time to permit adjustments as necessary in the inspection program. Most railroad bridge inspection programs at present do not incorporate an interim inspection report. The time between an inspection and the filing of the inspection report is found to vary. An effective bridge management program requires that the person in charge of the program have reasonably current information on the progress of the vital function of bridge inspection. The proposed time frame of 14 days has been extended to 30 days in the final rule because FRA now believes that the 30-day time period is sufficient for effective management by the railroad and effective compliance monitoring by FRA.

Two commenters requested that the time period for submission of the complete inspection report be extended from 45 to 90 days, and one commenter requested 120 days. FRA understands the circumstances in which a consultant is engaged to conduct detailed bridge inspections and evaluations. Some of those evaluations include a considerable amount of engineering work that is performed in an office rather than in the field, and several months are often used in preparing the complete report. The extension of the time period for filing the report is intended to allow the most efficient use of inspection and engineering resources, while still providing effective input for management by the bridge owner and monitoring by FRA.

In light of the reasons given, and discussion at the RSAC Railroad Bridge Working Group, FRA finds that a 120-day period for submission of the complete report would be reasonable and effective.

Two commenters noted that the proposed requirement to retain inspection reports until the completion of the next two following inspections of the same type would be burdensome and ineffective in the case of certain special inspections. For instance, if a highway vehicle strike occasions a special inspection, it would have been necessary to retain the records of the special inspection until the bridge had twice again been struck by a highway vehicle and inspected. This is not realistic, so the final rule simply requires that records of inspections be retained for two years following completion of the inspection, and that records of underwater inspections be retained until the completion and review of the next underwater inspection of the same components of the bridge.

Additionally, the final rule also accommodates instances in which a bridge inspection does not encompass the entire bridge. It also includes a clarification that when a complete report is filed before an interim report is due, the interim report is not required.

Other Comments

FRA received a number of comments that did not pertain to specific sections of the rule text. FRA will address these concerns below.

Maryland DOT suggested that FRA consider whether it would be beneficial to have the same inspection frequency criteria for all rail and transit lines or whether it is relevant to distinguish between Class I railroads, short lines, and transit lines, or to factor in rail traffic volume in general. Maryland DOT also states that it already has a detailed structural inspection program and database. It recommends that the new regulations not require replacement of existing agency programs, reporting forms, etc., to be in accordance with a national standard. Additionally, Maryland DOT asks whether FRA will compensate state agencies for the cost of overhauling their structural inspection program and database, and for the additional expense of conducting annual rather than biennial inspections. Finally, Maryland DOT asked if any regulations are proposed for tunnel, station or other miscellaneous structural inspections.

With respect to the first question, FRA has not distinguished among railroads of different sizes because the size of the railroad is in no way related to the physical attributes of a bridge and the loads that it carries. As noted above, this rule does not affect transit lines. The only criterion related to inspection frequency in this rule is a minimum of one inspection per year. As this provision is found in the RSIA, FRA has no option in this regard. *See* Section 417(b)(5), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note). With regard to the second concern, the rule does not require replacement of existing programs as long as they comply with the requirements of the rule. In response to the third concern, FRA is not aware of any Congressional appropriation of funds to provide assistance in order for regulated entities to comply with bridge safety regulations and thus FRA will not be providing any funding for that purpose. Finally, tunnels, stations, and other structures were not addressed in the proposed rule and thus are not addressed in this final rule.

Iowa DOT commented on the various types of ownership and maintenance agreements in place between highway agencies and railroads that cross those highways on bridges. Iowa DOT stated that "it would be more logical and provide a more consistent bridge safety program if the responsibility for inspection, load capacity ratings, and other aspects of the bridge safety program were fully retained by the track owner and not by the party that is financially responsible for maintenance. Where no agreement exists there can be a conflict over the responsibilities, therefore having the track owner fully responsible for the bridge safety program aspects would prevent any bridge from 'falling through the cracks' due to that conflict." Iowa DOT would like to see the final rule assign track owners the full responsibility for the bridge safety program, regardless of who is financially responsible for the structure's maintenance. Finally, the comment also states that, although the agency's bridge inspectors are fully qualified to inspect railroad bridges, determine load capacities, etc., they would not have the experience or

knowledge to translate the load capacities into railroad operational terms as required by the rule.

FRA notes that the final rule holds the track owner responsible for compliance, which is consistent with the commenter's request. The regulation does not address the question of financial responsibility or apportionment of expenses for bridge management or maintenance. That issue would continue to be governed by the terms of any agreements between the track owner and bridge owner. The rule does not assign or apportion financial or functional responsibility for inspection or maintenance of railroad bridges. The rule simply holds the track owner responsible for the adequate and safe support of its track on bridges. FRA does not specify who will perform those functions, so long as they are performed correctly by qualified individuals designated by the track owner. That designated individual may accept work performed by others, such as a state agency, if it is acceptable to them and can be adequately verified.

Regarding the last concern, bridge inspectors do not normally calculate the load capacities of a railroad bridge, unless they also happen to be competent railroad bridge engineers. Moreover, an engineer who cannot translate load capacities into railroad operational terms is not qualified to prescribe the loadings for a railroad bridge. The rule places the responsibility upon the track owner to have this done by a designated, competent railroad bridge engineer.

V. Section-by-Section Analysis

Amendment to 49 CFR Part 213, Track Safety Standards

Appendix C to Part 213—Statement of Agency Policy on the Safety of Railroad Bridges

FRA is removing 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 are 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 publishing them in a new appendix to part 237, which will be discussed further below.

Addition of 49 CFR Part 237, Bridge Safety Standards

Subpart A—General

This part prescribes minimum safety requirements for the management of railroad bridges that support one or more tracks. Track owners may adopt more stringent standards as long as they are in accordance with this part. FRA notes that it expressed these statements in proposed § 237.1, Scope of part, in the NPRM. See 74 FR 41560, 41573. FRA does not believe it necessary to include these explanatory statements directly in a section of the rule text, however, and is retaining them here instead.

Separately, FRA has removed proposed § 237.3, Preemptive effect. See 74 FR 41573. One commenter questioned whether the provisions in the proposed section were necessary, and whether they were inconsistent with other regulations. This section has been removed; discussion of the federalism implications of the rulemaking is found under Regulatory Impact and Notices, below. The sections in subpart A have been renumbered, accordingly.

Section 237.1 Application

This rule applies to all owners of track carried on railroad bridges 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. This part applies to both insular and non-insular tourist railroads because the passengers on those railroads are entitled to the protection afforded by this rule. As a matter of policy, FRA does not consider devices that run on rails in amusement parks to be railroads.

Paragraph (b). This part does 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 49 U.S.C. 20103 and appendix A of 49 CFR part 209.

Paragraph (c). This part does not apply to bridges located in an installation which is not a part of the general railroad system of transportation and over which trains are not operated by a railroad.

Section 237.3 Responsibility for Compliance

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 owners can choose to make an assignment of responsibility for compliance with this part. The assignment process, delineated in paragraphs (b) through (d) of this section, is similar to the assignment process detailed in 49 CFR 213.5. However, FRA will hold the track owner or the assignee, or both, responsible for compliance with this part and subject to penalties under § 237.7. 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 established, 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 FRA to be responsible for compliance with this part.

Paragraph (d). As described in 49 CFR part 213, 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.

Paragraph (e). This paragraph requires any person, including a state agency, who performs a function on a railroad bridge that is required by this part to perform that function in accordance with this part. Instances have occurred

in which state agencies have performed bridge inspections and evaluations in which the bridge was found to be seriously deficient, and where the operating railroad was never notified or advised of the problem. FRA accident records include at least one such instance in which the bridge failed under a train, resulting in a catastrophic train accident. Section 237.109 requires that the track owner keep the bridge inspection reports, and must therefore obtain them from a state agency or any other party that performs bridge inspections in conformance with the requirements of these regulations. This provision will prevent a loss of vital communication among concerned parties.

Paragraph (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.

Paragraph (g). This paragraph provides that FRA reserves the right to reject an assignment of responsibility under § 237.3(b) for cause shown. As stated in paragraph (c) of this section, FRA may hold the track owner or the assignee, or both, responsible for compliance with this part and subject to penalties under § 237.7. Consequently, if FRA rejects an assignment of responsibility, FRA will not consider the rejected assignee responsible for compliance with part 237 pursuant to paragraph (c) of this section.

Section 237.5 Definitions

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 bridge repair. "Bridge modification" means a change to the configuration of a railroad bridge that affects the load capacity of the bridge, while "bridge repair" means remediation of damage or deterioration which has affected the structural integrity of a railroad bridge. This part requires that modifications and repairs to bridges be designed by railroad bridge engineers, and the work supervised by designated railroad 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. A "railroad bridge" is any structure which spans an opening under the track except for a small culvert, pipe, or other such structure that is located so far below the track that it only carries dead load from soil pressure and is not subjected to measurable bending, tension or compression stresses from passing trains. Unloading pits, track scales, and waterfront structures such as piers and wharves that fall within the definition of a "railroad bridge" are considered bridges for purposes of this part.

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, retaining walls, tunnels or overhead structures by providing for their inspection and maintenance, but it exempts them from the specific requirements of this regulation. A structure in a locomotive or car maintenance facility which is used to support cars or locomotives for maintenance is not included in the specific requirements of this regulation.

Section 237.7 Penalties

This provision conforms 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 237.9 Waivers

This section provides that each petition for a waiver under this part 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.

Subpart B—Railroad Bridge Safety Assurance

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. The responsibility for the safety of a railroad bridge rests with the owner of the track supported by that bridge, who relies upon the work of the engineer who makes the critical decisions regarding the management and use of that bridge.

Section 237.31 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." Section 417(a), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note). This section requires 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. 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 passengers trains per week shall implement their bridge safety programs no later than March 14, 2011. Class II carriers which carry ten or fewer scheduled passenger trains per week shall implement their bridge safety programs no later than September 13, 2011. All other track owners subject to this part shall implement their bridge safety programs no later than September 13, 2012.

FRA considers this implementation schedule to be realistic and effective, with priorities given to railroads with the highest levels of freight or passenger traffic. The implementation dates apply to the track owner, 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 237.33 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." Section 417(b)(1), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note). This paragraph requires 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." Section 417(b)(3), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note). This paragraph requires 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 a bridge's 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). The track owner must obtain and maintain the design documents of each bridge, if available, and 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 facilitate more 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. If the design documents for a bridge cannot be located, the track owner must measure and document the configuration of the bridge in sufficient detail to enable an accurate determination of the safe capacity of the bridge.

Paragraph (d). Bridge inspection is absolutely essential to an effective bridge management program. In this paragraph, FRA requires that the track owner's bridge management program contain a bridge inspection program. Items (1) through (6) should be addressed in the program to a 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 those persons who review and evaluate a bridge using information from the inspection.

Subpart C—Qualifications and Designations of Responsible Persons

In subpart C, FRA establishes 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 237.51 Railroad Bridge Engineers

This section sets forth 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. See 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. The determination of qualifications by the track owner includes employment of the engineer by the track owner, and designation of the engineer to exercise the authority called for in this part. By employment, FRA includes both engineers who are employees of the track owner as well as those engaged under a consulting contract.

A railroad bridge engineer must also have either: (1) A degree in engineering granted by a school of engineering with at least one program accredited by ABET, Inc. or its successor organization, as a professional engineering curriculum, or a degree from a program accredited as a professional engineering curriculum by a foreign organization recognized by ABET, Inc. or its successor; or (2) current registration as a professional engineer.

FRA believes that the critical nature of railroad bridge engineering work called for in this rule requires persons to 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 rule.

In paragraph (c), FRA states that nothing in this part affects the States' authority to regulate the professional practice of engineering. 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 preempt or interfere with any state laws regarding the professional practice of engineering. For example, a person registered as a professional engineer in Maryland could not work as a professional engineer in Virginia under this regulation in violation of Virginia law if such work violated Virginia law regarding the practice of engineering.

Section 237.53 Railroad Bridge Inspectors

In this section, FRA establishes 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 procedures, 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 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 cannot overrule a determination made by a designated bridge inspector, supervisor, or engineer.

Section 237.55 Railroad Bridge Supervisors

In this section, FRA establishes 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 237.57 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. See Section 417(b)(8), Public Law 110–432, 122 Stat 4890 (49 U.S.C. 20103, note). In this section, FRA requires 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 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.

Subpart D—Capacity of Bridges

In subpart D, FRA 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. 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 237.71 Determination of Bridge Load Capacities

Paragraph (a). Each track owner must determine the load capacity of each of its railroad bridges. It is essential that the track owner know that loads operated over a bridge do 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, the regulation does not require that the track owner precisely calculate the additional capacity of that bridge, although that could be useful from a planning or economic standpoint.

Paragraph (b). This paragraph requires that the load capacity of each bridge be documented in the track owner's bridge management program, 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. See Section 417(b)(2), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note). 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). This paragraph permits bridge load capacity to 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, condition and properties of the bridge and its components be determined by on-site measurement of the bridge as it currently exists.

FRA recognizes that a rigorous, exact method of rating is not practicable with several types of bridges, including some massive concrete or masonry bridges and many timber trestles. The railroad bridge engineer will necessarily use judgment in determining the loads which should be permitted to operate over these bridges, and assuring that adequate inspections are performed so that any developing deterioration or signs of overload are detected before they progress to become a serious problem.

Paragraph (e). In this paragraph, FRA requires a track owner to 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). 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 railroad bridge engineer might determine that a change in condition or configuration calls for a revised rating calculation.

Paragraph (g). In this paragraph, FRA states 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 rail equipment 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 states 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.

Paragraph (h) also states 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. A railroad bridge 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 237.73 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." See Section 417(b)(4), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note).

Paragraph (a). In this paragraph, FRA requires that each track owner issue instructions to its personnel who are responsible for the configuration 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 states 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 states 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 states 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.

Subpart E—Bridge Inspection

In subpart E, FRA establishes 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. While 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 237.101 Scheduling of Bridge Inspections

Paragraph (a). In this paragraph, FRA establishes 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." Section 417(b)(5), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note). 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 3, 2011, it becomes overdue for inspection on June 27, 2012, 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.

One commenter requested that FRA clarify what constitutes a yearly inspection. The commenter asked if this means a "hands-on" type of inspection, or a routine cursory type of inspection. FRA responds that the rule does not prescribe an inspection procedure; that decision is left to the railroad bridge engineer. It is quite likely that the engineer might prescribe varying levels of detail for inspections performed at different periods, depending on the configuration and condition of the bridge.

Paragraph (b). In this paragraph, FRA states 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 requires 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 resulting from 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 states 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 must 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. FRA notes that although inspections are not required on out-of-service railroad bridges, state law regarding responsibility for damage to outside parties that might be caused by the condition of the bridge is not affected. 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 237.103 Bridge Inspection Procedures

In this section, FRA requires 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 states 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. See Section 417(b)(7)(A), Public Law 110–432, 122 Stat 4890 (49 U.S.C. 20103, note). 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 requires 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.

ASLRRA commented that the rule provides that a railroad bridge engineer must direct programs, review inspections, record procedures, and undertake other similar steps. ASLRRA suggests that this seems to imply the railroad must have a railroad bridge engineer capable of designing a bridge on staff or employed as a consultant each time an inspection is made. ASLRRA contends that a railroad supervisor can implement a program, review the inspection, audit a program, and assess whether a bridge inspection exception needs to go to a railroad bridge engineer for review.

FRA responds that a bridge inspection program can be established by a railroad bridge engineer, either as an employee of or as a consultant to the track owner. The engineer is not required to be on site, or even on the property, during an inspection. A primary purpose of the audit procedure called out below is to permit the railroad bridge engineer to review and monitor the effectiveness of the bridge inspection program that has been conducted under his overall charge.

Section 237.105 Special Inspections

Paragraph (a). In this paragraph, FRA requires 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 conditions and earthquakes, and a procedure to conduct an inspection following such an event.

Paragraph (b). In this paragraph, FRA requires 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 underwater 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.

Maryland DOT requested that FRA provide advice on a required inspection frequency for the underwater inspection, noting that FHWA requires underwater inspections at least once in every five years. FRA responds that the rule does not prescribe a particular frequency for underwater inspections; that decision is left to the railroad bridge engineer, to be based on the particular conditions at each bridge.

Section 237.107 Conduct of Bridge Inspections

In this section, FRA requires that bridge inspections be conducted under the direct supervision of a designated railroad 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 237.109 Bridge Inspection Records

In this section, FRA requires that each track owner to which this part applies keep a record of each inspection required to be performed 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 format 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 requires that an initial report of each bridge inspection be placed in the location designated by the bridge management program within 30 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 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 developed as a means for the track owner to track inspection progress, bridge by bridge, with a simple line item showing:

(1) identification of the bridge inspected;

(2) date of completion of the inspection;

(3) identification of the inspector;

(4) type of inspection performed; and

(5) 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. The initial report might include all of the bridges inspected by one individual in a week or two. 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.

Paragraph (e). In this paragraph, FRA requires that a complete report of each bridge inspection shall be placed in the location designated in the bridge management program within 120 days of the completion of the field portion of the inspection. 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.

Paragraph (f). This paragraph requires that each bridge inspection program specify the retention period and location for bridge inspection records. The retention period must be at least two years from the completion of the inspection. A comparison of successive reports can reveal any accelerating rates of deterioration or degradation of bridge components. Additionally, 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 is a valuable factor in determining the effectiveness of a railroad's program.

Section 237.111 Review of Bridge Inspection Reports

The RSIA requires that an engineer who is competent in the field of railroad bridge engineering reviews all inspection reports and determines whether bridges are being inspected according to the applicable procedures and frequencies, and reviews any items noted by an inspector as exceptions. See Section 417(b)(7), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note). In this section, FRA requires responsible railroad bridge supervisors and railroad bridge engineers to 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.

The regulation does not require that a railroad bridge engineer 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. The engineering staff would review the reports that indicate problems or issues for them to resolve. Section 237.153, "Audits of inspections," includes a provision for sampling of routine inspection reports to assure that the inspectors are properly identifying reports that require review.

Subpart F—Repair and Modification of Bridges

In subpart F, FRA establishes minimum standards to be incorporated in railroad bridge management programs to provide for adequate design and effective supervision of those bridge modifications and repairs 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 237.131 Design

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 be performed only 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. For purposes of this part, a primary load-carrying component is a railroad bridge component, the failure of which would immediately compromise the structural integrity of the bridge.

One commenter notes that the proposed rule requires that while all bridge work that eliminates a deteriorated condition requires design by a bridge engineer, for many situations ranging from cracked flange angles to failed timber caps, a simple component change-out is the most effective repair. These types of repairs have historically been performed by bridge forces without the benefit of formal design oversight. The commenter suggested that each track owner should determine what repairs require the oversight of an engineer.

FRA understands this concern, and has modified § 237.131 to read, in part, that "[e]ach repair or modification which materially modifies the capacity of a bridge or the stresses in any primary load-carrying component of a bridge shall be designed by a railroad bridge engineer."

The comment regarding simple component replacement is addressed in the last sentence of the paragraph, which states that 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. Although it may be a standard procedure, the standard should be designed and issued by a qualified railroad bridge engineer.

Section 237.133 Supervision of Repairs and Modifications

This section requires that each repair or modification pursuant to this part shall be performed under the immediate supervision of a railroad bridge supervisor as defined in § 237.55 of this part 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. As this part does not specify the employment relationship between the track owner and the bridge supervisor, the track owner may designate a contractor or a consultant as the bridge supervisor.

One commenter asked if FRA would object to a track owner designating a contractor's foreman as the bridge supervisor qualified to return a bridge to service at the end of each work window. The commenter also stated that small railroads that do not have a bridge engineer may have to designate their engineering consultant as the bridge supervisor whose full-time presence on a job will be expensive and will take money away from repairs. FRA responds that the proposed regulation does not specify the employment relationship between the track owner and a bridge supervisor. A contractor employee or a consultant may be so designated. It is necessary, however, that a qualified individual be responsible for the proper and safe performance of work on a bridge, and that the individual be authorized to perform the actions necessary to fulfill that responsibility.

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

Documentation is essential to any effective management program. In subpart G, FRA establishes 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 237.151 Audits; General

In this section, FRA requires 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 237.153 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 states that each bridge management program incorporate provisions for an internal audit. 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. Additionally, 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.

Section 237.155 Documents and Records

In this section, FRA requires each track owner required to implement a bridge management program and keep records under this part to make those program documents and records available for inspection and reproduction by 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. See Section 417(d), Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note). 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 establishes 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. FRA recognizes the growing prevalence of electronic records, and acknowledges the unique challenges that electronic transmission, storage, and retrieval of records can present. To allow for future advances in technology, FRA is establishing electronic record storage provisions in these paragraphs that are technology-neutral.

For purposes of complying with the record-keeping requirements of this part, a track owner may create and maintain any of the required records through electronic transmission, storage, and retrieval, provided that certain conditions are met. Not only must the system used to generate the electronic records meet all of the requirements of this subpart and the records contain all of the information required by this subpart, but the track owner must also: monitor the electronic database through a sufficient number of monitoring indicators to ensure a high degree of the accuracy of the records; train the employees who use the system on the proper use of the system; and maintain 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.

Additionally, the integrity of the bridge inspection records must be protected by a security system that incorporates user identity and password, or a comparable method, to establish appropriate levels of program and record data access meeting all of the following standards: no two individuals can have the same electronic identity; a record cannot be deleted or altered by any individual after the record is certified by the employee who created the record; any amendment to the record must either be electronically stored apart from the record it amends, or electronically attached to the record as information without changing the original record; each amendment to a record must uniquely identify the person making the amendment; and the electronic system must provide for the maintenance of inspection records as originally submitted without corruption or loss of data.

Two commenters expressed a general concern that the security provisions of the proposed rule would preclude the modification of permanent bridge records, such as the inventory itself. As FRA responds that was not the intent, the final rule has been modified so that the data security provisions apply only to bridge inspection records.

Appendix A to Part 237—Supplemental 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, 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.

Appendix B to Part 237—Schedule of Civil Penalties

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.

VI. Regulatory Impact and Notices

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

This final rule has been evaluated in accordance with existing policies and procedures and determined to be non-significant under both Executive Order 12866 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 final 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 final rule. For the 20-year period the estimated quantified costs total $164.2 million, and have a present value (PV, 7%) of $84.4 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 final 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; Final 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. During the NPRM stage, FRA had not determined whether the proposed rule would have a significant economic impact on a substantial number of small entities. Therefore, FRA published an IRFA to aid the public in commenting on the potential small business impacts of the proposals in the NPRM. All interested parties were invited to submit data and information regarding the potential economic impact that would result from adoption of the proposals in the NPRM.

The Regulatory Flexibility Act also requires an agency to conduct a final regulatory flexibility assessment (FRFA) unless it determines and certifies that a rule is not expected to have a significant impact on a substantial number of small entities. FRA is not able to certify that the final rule will not have a significant economic impact on a substantial number of small entities due to insufficient information. FRA did not receive many comments, or data from commenters, on the IRFA, and the information that was received was not sufficient to make a determination. Thus, FRA is publishing this FRFA and will issue a small entity guidance document soon.

FRA estimates, primarily based on two facts, that approximately 70 percent of the total cost of this rulemaking (see regulatory impact analysis (RIA)) will be borne by small entities. First, larger railroads generally have more comprehensive bridge management programs and more frequent bridge inspections. Second, since FRA's RIA is an overall industry analysis, it is not immediately obvious that the incremental cost burden on small railroads is proportionally larger than for larger entities. This is because more small railroads will have to increase inspection frequency and enhance their management programs. It should be noted that the bridge populations of typical small railroads are less complex than those of larger railroads.

Below, FRA provides the rationale it used for assessing what impacts would be borne by small entities. FRA considered all comments received in the public comment process when making a determination in the FRFA.

This FRFA was developed in accordance with the Regulatory Flexibility Act.

(1) A Succinct Statement of the Need for and Objectives of the Rule

As discussed in Section I of the preamble to this rule, 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. The Rail Safety Improvement Act of 2008 (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.

There are more than 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 its railroad bridges, supporting one or more tracks, rather than several programs tailored to meet the different requirements of each different State or local jurisdiction.

FRA is issuing this rule to promulgate minimum bridge safety standards as mandated by RSIA, Section 417, Public Law 110–432, 122 Stat. 4890 (49 U.S.C. 20103, note).

(2) A Summary of the Significant Issues Raised by the Public Comments in Response to the IRFA, a Summary of the Assessment of the Agency of Such Issues, and a Statement of Any Changes Made to the Proposed Rule as a Result of Such Comments

No comments were received that directly addressed the IRFA. However, a few comments did address items of cost used in the RIA, which are related to the IRFA for the NPRM.

(a) Security of Records

In 49 CFR 237.155, FRA proposed numerous recordkeeping requirements primarily dealing with security. The recordkeeping requirements in the proposed rule assumed that the documents would be kept electronically. One commenter noted that not all documents for small railroads would be maintained that way. Thus, the final rule has a minor revision that accommodates bridge inspection records that are not electronic. The impact of this minor change will not cause any cost calculation changes.

(b) Bridge Inspection Cost

One commenter did not agree with the average bridge inspection cost that the FRA used in its RIA. More specifically, this commenter mentioned that $750 for the average cost of a bridge inspection is not realistic. This commenter also opined that the actual cost is more excessive (in the range of $4,000 to $5,000 per bridge) for a bridge that was inspected on a 2-year cycle.

FRA disagrees with this commenter and believes that the cost used in the RIA for the NPRM is appropriate, given its understanding and interpretation of the regulatory requirements. In response, FRA emphasizes that its cost estimate is an average that includes lower cost inspections, such as that of a wood trestle bridge over a small stream, which would be less than the average cost. In addition, this commenter was basing the higher cost estimate on a more expensive, hands-on detailed bridge inspection process required on a 2-year frequency for highway bridges by FHWA. Finally, this commenter was providing comments related to experiences with inspecting a population of large highway bridges. For these reasons, FRA has not modified its cost estimate for bridge inspections.

(3) A Description and an Estimate of the Number of Small Entities to Which the Rule Will Apply or an Explanation of Why No Such Estimate Is Available

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

"Small entity" is defined in 5 U.S.C. 601 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 nonprofit enterprises that are independently owned and operated, and are not dominant in their field of operations within the definition of "small entities." Additionally, 5 U.S.C. 601(5) defines "small entities" as 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 "shortline operating" railroads.[1]

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.[2] 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.[3] The same dollar limit on revenues is established to determine whether a railroad shipper or contractor is a small entity. FRA proposed to use this definition for the rulemaking in the NPRM and received no comments on that proposal. FRA is using this definition for the final rule.

(a) Governmental Jurisdictions of Small Communities

Small entities that are classified as governmental jurisdictions of small communities may also be affected by this rulemaking. As stated above, and defined by SBA, this term refers to the 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 and received no additional information during the comment process of the NPRM.

In some cases, however, the government entity and the railroad apportion ownership, expenses, and maintenance responsibility according to the provisions of an order from the State regulatory agency that governs highway and 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 which require cost-sharing and existing bridge management programs would have to be enhanced to meet the final 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 possible that insurance premiums could 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 regulation and what the impact would be to them. FRA requested comment from affected governmental jurisdictions as to the impact the proposed rule would have on them during the NPRM comment process. The comments received during the public comment period of the NPRM did not provide any additional data or information on this issue.

(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 final rule would apply to all of these small railroads, FRA has concluded that a substantial number of such entities would be impacted. Note, however, that approximately 125 of these railroads are subsidiaries of large shortline holding companies with the expertise and resources comparable to larger railroads. In the IRFA for the NPRM, FRA estimated a smaller number of subsidiaries, but since then has gained more accurate information as to the best estimate of how many small railroads are subsidiaries of larger corporations. 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 imposed 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 it to meet their specific circumstances and the requirements in this rule. 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 FRA does recognize that some small railroads do not currently have bridge management programs, FRA believes 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 usually quite significant, railroads are already implementing bridge management programs.

For example, in 2005, the Texas Transportation Institute reported that 42 percent of the shortline railroad miles that were operated in Texas that year had already been upgraded, 9 percent would not need an upgrade, and 47 percent needed upgrading if they wanted to transport any type of 286,000-pound shipments.[4] In addition, the results of a 1998–1999 survey conducted by ASLRRA indicated that 41 percent of respondent shortline railroads could handle 286,000-pound rail cars and 87 percent of the respondent shortline railroads indicated that they would need to accommodate 286,000-pound railcars in the future.[5]

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

In general, implementation of the final rule will likely significantly burden only a small portion of the small railroads potentially affected. FRA invited commenters to submit information that might assist us in assessing the cost impacts on small railroads of the proposals during the comment process of the NPRM; however, very little comment was received on this matter, and comments received were not sufficient to allow us to make a determination.

[1] "Table of Size Standards," U.S. Small Business Administration, January 31, 1996, 13 CFR Part 121. *See also* NAICS Codes 482111 and 482112.

[2] *See* 68 FR 24891 (May 9, 2003).

[3] For further information on the calculation of the specific dollar limit, please see 49 CFR Part 1201.

[4] Jeffrey E. Warner and Manuel Solari Terra, "Assessment of Texas Short Line Railroads," Texas Transportation Institute (November 15, 2005).

[5] The 10-Year Needs of Short Line and Regional Railroads, Standing Committee on Rail Transportation, American Association of State Highway and Transportation Officials, Washington, DC (December 1999). This report was based on a survey conducted by the ASLRRA in 1998 and 1999, with data from 1997.

(4) A Description of the Projected Reporting, Recordkeeping, and Other Compliance Requirements of the 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

The impacts from this rulemaking will primarily result from complying with the requirements for the adoption of bridge management programs. The final rule provides affected entities 6- to 24-month periods of time in which to adopt such programs. Class III railroads will have the full 24-month period from the effective date of the final rule, unless they have more than 10 scheduled passenger trains per week operating anywhere on their system, in which case they would have only 6 months.

(a) Recordkeeping Requirements of § 237.33

The requirements in § 237.33 stipulate that each bridge management program includes 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, because it is good business practice to do so, most railroads maintain documents related to all repairs, modifications, and inspections of bridges. 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 this rule. Thus these requirements will impose a nominal additional recordkeeping burden on some small railroads.

As noted above, not all small railroads have inspection programs. ASLRRA, however, has developed a model program for its members, thus minimizing the burden associated with the 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 percent of the initial development cost, or between $85 and $450, annually. Therefore, this reporting requirement will have minimal impact on small entities.

Determination of bridge load capacity will be made by a bridge engineer. The engineer is determined by the track 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 will be required to contain bridge inspection programs. Subpart E requires calendar year inspections 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. The inspector is deemed technically competent to view, measure, report, and record the condition of a railroad bridge and its individual components. FRA expects there will be a significant increase in the number of bridge inspections conducted by small railroads or their contractors or consulting engineers. FRA requested 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. FRA did not receive any comments or information related to this request.

Most small railroads do not have bridge engineers or inspectors on staff. They contract out bridge inspections. A typical contract is 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 are provided to the railroad, or the responsible railroad bridge engineer, to record the fact that a certain bridge has actually been inspected and whether or not any significant deficiencies were noted. Some States provide shortline railroads funding via grants and loans for infrastructure improvements including bridge rehabilitation, track maintenance, and bridge inspection. For instance, the Tennessee Department of Transportation provides significant grants for such projects to most of the 20 Class III railroads in the State.[6] The Pennsylvania Department of Transportation 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. Most small railroads may own track supported by several bridges, especially in some areas where the terrain requires such structures. FRA requested comment regarding the level of cost burden that the annual inspection would impose. The cost for this requirement was the largest cost in FRA's RIA. FRA believes that, of the railroads which do not presently inspect their bridges on an annual basis, most are small railroads.

(c) Determination of Bridge Load Capacities

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 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 affected by this requirement will likely have a consulting engineer perform such calculations. Most of the bridges that do not already have load capacities calculated are smaller, less complex structures.

(d) Repair and Modification of Bridges

Subpart F prescribes minimum standards for 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) will have to be designed by railroad bridge engineers, and the work will have to be supervised by designated bridge supervisors. Small railroads will generally contract out such modifications and repairs. As common

[6] 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).

practice, consulting engineers meet the design and supervision requirements of this rule, and competent contractor employees may be designated to perform the immediate supervision of much of the modification and repair work.

(e) Audits

Each program will 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 will generally be performed by a company official following guidance in the ASLRRA model program and without assistance from an external financial or engineering auditor. In general, FRA anticipates that the audit process will be simpler and consume fewer resources for small railroads than for larger railroads. This is because, by the nature of their operations, shortlines will probably have smaller and less complex bridge populations.

(5) A Description of the Steps the Agency Has Taken To Minimize the Significant Adverse Economic Impact On Small Entities Consistent With the Objectives of Applicable Statutes, Including a Statement of Factual, Policy, and Legal Reasons for Selecting the Alternative Adopted in the Final Rule, and Why Each of the Other Significant Alternatives to the Rule Considered by the Agency Was Rejected

In § 237.31, 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 generally provides small railroads with an additional 18 months more than Class I carriers, and an additional 12 months more than Class II carriers, to adopt these programs.

FRA has identified no additional, significant alternative to this final rule that satisfies the mandate of the RSIA or meets the agency's objective in promulgating this rule, and that would minimize the economic impact of the rulemaking on small entities. As in all aspects of this rulemaking, FRA requested comments on this finding of no significant alternative related to small entities. No comments were received relative to the question of what alternatives could be provided to small entities.

The process by which this final rule was developed provided outreach to small entities. As noted in Section III of this final rule, this rule was developed in consultation with industry representatives through RSAC, which includes small railroad representatives. On December 10, 2008, RSAC referred to the Working Group, established in March 2008, the task of developing a draft rule requiring the owners 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 Nation's railroad transportation system resulting from catastrophic bridge failure. The Working Group met twice, on January 28–29, 2009, and February 23–24, 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. After the comment period for the NPRM closed, FRA held a 1-day meeting for the Working Group to review the comments to the docket. This meeting was held in Washington, DC, on December 15, 2009. At this meeting all comments were reviewed and the Working Group provided FRA with pertinent input on potential issues. This final rule takes into account the comments and input provided by the Working Group.

C. Paperwork Reduction Act

The information collection requirements in this final 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 contain the new information collection requirements and the estimated time to fulfill each requirement are as follows:

CFR Section	Respondent universe	Total annual responses	Average time per response	Total annual burden hours
237.3:				
Notifications to FRA of Assignment of Bridge Responsibility.	693 Railroads	15 notifications	90 minutes	22.5
Signed Statement by Assignee Concerning Bridge Responsibility.	693 Railroads	15 signed statements	30 minutes	7.5
237.9: Waivers—Petitions	693 Railroads	12 petitions	4 hours	48
237.31 and 237.33: Development/Adoption of Bridge Management Program.	693 Railroads	693 plans	Varies	20,100
237.57: Designation of Qualified Individuals	693 Railroads	200 designations	30 minutes	100
237.71: Determination of Bridge Load Capacities	693 Railroads	2,000 determinations	8 hours	16,000
237.73: Issuance of Instructions to Railroad Personnel by Track Owner.	693 Railroads	2,000 instructions	2 hours	4,000
237.105:				
Special Bridge Inspections and Reports/Records	693 Railroads	7,500 inspections and reports/records.	12.50 hours	93,750
Special Underwater Inspections	693 Railroads	50 inspections and reports/records.	40 hours	2,000
237.107 and 237.109:				
Nationwide Annual Bridge Inspections—Reports	693 Railroads	18,000 inspections and reports.	4 hours	72,000
Records	693 Railroads	18,000 records	1 hour	18,000

CFR Section	Respondent universe	Total annual responses	Average time per response	Total annual burden hours
Report of Deficient Condition on a Bridge (New from NPRM).	693 Railroads	50 reports	30 minutes	25
237.111:				
Review of Bridge Inspection Reports by Railroad Bridge Engineers.	693 Railroads	2,000 inspection report reviews.	30 minutes	1,000
Prescription of Bridge Inspection Procedure Modifications After Review.	693 Railroads	200 inspection procedure modifications.	30 minutes	100
237.131:				
Design of Bridge Modifications or Bridge Repairs	693 Railroads	1,250 designs	16 hours	20,000
Bridge Modification Repair Reviews/Supervisory Efforts	693 Railroads	1,250 bridge modification repair reviews.	1.50 hours	1,875
Common Standard Designed by Railroad Bridge Engineer (New from NPRM).	693 Railroads	50 standards	24 hours	1,200
237.153: Audits of Inspections	693 Railroads	693 inspection audits	80 hours/24 hours/6 hours.	5,470
237.155—Documents and Records:				
Establishment of Railroad Monitoring and Information Technology Security Systems for Electronic Recordkeeping.	693 Railroads	5 systems	80 hours	400
Employees Trained in System	693 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. For information or a copy of the paperwork package submitted to OMB, contact Mr. Robert Brogan at 202–493–6292 or Ms. Kimberly Toone at 202–493–6132, or via e-mail at the following respective addresses: *Robert.Brogan@dot.gov;* or *Kimberly.Toone@dot.gov.*

Organizations and individuals desiring to submit comments on the collection of information requirements should direct them to the Office of Management and Budget, Office of Information and Regulatory Affairs, Washington, DC 20503, Attention: FRA Desk Officer. Comments may also be sent via e-mail to the Office of Management and Budget at the following address: *oira_submissions@omb.eop.gov.*

OMB is required to make a decision concerning the collection of information requirements contained in this final 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.

FRA cannot impose a penalty on persons for violating information collection requirements that 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 this 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 final 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 final rule that might trigger the need for a more detailed environmental review. As a result, FRA finds that this final 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 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.

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

Moreover, FRA notes that RSAC, which provided advice regarding 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 made in this rulemaking. RSAC regularly provides recommendations to the Administrator of FRA 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.

However, this final rule could have preemptive effect by operation of law under a provision of the former Federal Railroad Safety Act of 1970 (former FRSA), 49 U.S.C 20106 (Sec. 20106). The former FRSA provides that States may not adopt or continue in effect any law, regulation, or order related to railroad safety or security that covers the subject matter of a regulation prescribed or order issued by the Secretary of Transportation (with respect to railroad safety matters) or the Secretary of Homeland Security (with respect to railroad security matters), except when the State law, regulation, or order qualifies under the "local safety or security hazard" exception to Section 20106.

In sum, FRA has analyzed this final rule in accordance with the principles and criteria contained in Executive Order 13132. As explained above, FRA has determined that this final rule has no federalism implications, other than the possible preemption of State laws under the former FRSA. Accordingly, FRA has determined that preparation of a federalism summary impact statement for this final rule is not required.

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 $140,800,000) 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 final rule will not result in the expenditure, in the aggregate, of $140,800,000 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 final rule in accordance with Executive Order 13211. FRA has determined that this final rule is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Consequently, FRA has determined that this final 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 Rule

■ In consideration of the foregoing, FRA amends chapter II, subtitle B, of title 49, Code of Federal Regulations by removing appendix C to part 213 and adding part 237 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.

Appendix C to Part 213—[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 Application.
237.3 Responsibility for compliance.
237.5 Definitions.
237.7 Penalties.
237.9 Waivers.

Subpart B—Railroad Bridge Safety Assurance

237.31 Adoption of bridge management programs.
237.33 Content of bridge management programs.

Subpart C—Qualifications and Designations of Responsible Persons

237.51 Railroad bridge engineers.
237.53 Railroad bridge inspectors.
237.55 Railroad bridge supervisors.
237.57 Designation of individuals.

Subpart D—Capacity of Bridges

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

Subpart E—Bridge Inspection

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

Subpart F—Repair and Modification of Bridges

237.131 Design.
237.133 Supervision of repairs and modifications.

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

237.151 Audits; general.
237.153 Audits of inspections.
237.155 Documents and records.
Appendix A—Supplemental Statement of Agency Policy on the Safety of Railroad Bridges
Appendix B—Schedule of Civil Penalties

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

Subpart A—General

§ 237.1 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.

§ 237.3 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 that 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 § 237.7.

(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.

(g) FRA reserves the right to reject an assignment of responsibility under § 237.3(b) for cause shown.

§ 237.5 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, or 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 § 237.3.

§ 237.7 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 Administrator of the Federal Railroad Administration to be responsible under § 237.3(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.

§ 237.9 Waivers.

(a) Any person subject to a requirement of this part may petition the Administrator for a waiver of compliance with such requirement. The filing of such a petition does not affect that person's responsibility for compliance with that requirement while the petition is being considered.

(b) Each petition for waiver must be filed in the manner and contain the information required by part 211 of this chapter.

(c) If the Administrator finds that a waiver of compliance is in the public interest and is consistent with railroad safety, the Administrator may grant the waiver subject to any conditions the Administrator deems necessary. If a waiver is granted, the Administrator publishes a notice in the Federal Register containing the reasons for granting the waiver.

Subpart B—Railroad Bridge Safety Assurance

§ 237.31 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) March 14, 2011: Class I carriers;

(b) March 14, 2011: 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) September 13, 2011: Class II carriers to which paragraph (b) of this section does not apply; and

(d) September 13, 2012: All other track owners subject to this part and not described paragraphs (a) through (c) of this section.

§ 237.33 Content of bridge management programs.

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

(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;

(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 Railroad bridge engineers.

(a) 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 degree in engineering granted by a school of engineering with at least one program accredited by ABET, Inc. or its successor organization as a professional engineering curriculum, or a degree from a program accredited as a professional engineering curriculum by a foreign organization recognized by ABET, Inc. or its successor; or

(2) Current registration as a professional engineer.

(c) Nothing in this part affects the States' authority to regulate the professional practice of engineering.

§ 237.53 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.

§ 237.55 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.

§ 237.57 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 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 must be 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, as established by a railroad bridge engineer. The initial determination of load capacity shall be completed not later than five years following the required date for adoption of the track owner's bridge management program in conformance with § 237.31.

(f) Where a bridge inspection reveals that, in the determination of the railroad bridge engineer, the condition of a bridge or a bridge component might adversely affect the ability of the bridge to carry the traffic being operated, a new capacity shall be determined.

(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.

§ 237.73 Protection of bridges from over-weight and over-dimension loads.

(a) Each track owner shall issue instructions to the personnel who are responsible for the configuration 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 of 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 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 than provided for in the bridge management program 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 a 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.

§ 237.103 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; 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.

§ 237.105 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 a 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.

§ 237.107 Conduct of bridge inspections.

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

§ 237.109 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 the date the record is created, and it will be 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 physical 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;

(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; and

(7) When an inspection does not encompass the entire bridge, the portions of the bridge which were inspected shall be identified in the report.

(d) An initial report of each bridge inspection shall be placed in the location designated in the bridge management program within 30 calendar days of the completion of the inspection unless the complete inspection report is filed first. 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 120 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. Records of underwater inspections shall be retained until the completion and review of the next underwater inspection of the bridge.

(g) If a bridge inspector, supervisor, or engineer discovers a deficient condition on a bridge that affects the immediate safety of train operations, that person shall report the condition as promptly as possible to the person who controls the operation of trains on the bridge in order to protect the safety of train operations.

§ 237.111 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 or frequency 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 Design.

Each repair or modification which materially modifies the capacity of a bridge or the stresses in any primary load-carrying component of a bridge 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. Where the common standard addresses procedures and methods that could materially modify the capacity of a bridge or the stresses in any primary load-carrying component of a bridge, the standard shall be designed and issued by a qualified railroad bridge engineer.

§ 237.133 Supervision of repairs and modifications.

Each repair or modification pursuant to this part shall be performed under the immediate supervision of a railroad bridge supervisor as defined in § 237.55 of this part 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 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.

§ 237.153 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.

§ 237.155 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 track owner 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 track owner monitors its electronic records database through sufficient number of monitoring indicators to ensure a high degree of accuracy of these records;

(4) The track owner shall train its employees who use the system on the proper use of the electronic recordkeeping system; and

(5) The track owner 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 bridge inspection records must be protected by a security system that incorporates a user identity and password, or a comparable method, to establish appropriate levels of program and record data 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 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 promulgation of 49 CFR Part 237, Bridge Safety Standards, many of the non-regulatory provisions in that Policy Statement have been incorporated into the bridge safety standards in this part.

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 § 237.3, "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. They do not have the force of regulations or orders, which FRA may enforce using civil penalties or other means. The guidelines 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 § 237.3.

(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 § 237.71.

(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 § 237.73.

(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 § 237.33.

(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 § 237.101. Section 237.101(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 § 237.105.

10. *Railroad bridge inspection records.*

(a) The requirements for recording and reporting bridge inspections are found in § 237.109.

(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 § 237.111.

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 § 237.101.

(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 neither the bridge nor 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 determinations regarding the integrity of the track owner's bridges. The designations 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;

(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 engineer 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; and

(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; and

(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

APPENDIX B TO PART 237—SCHEDULE OF CIVIL PENALTIES [1]

Section [2]	Violation	Willful violation
Subpart B—Railroad Bridge Safety Assurance		
237.31 Adoption of bridge management program	$9,500	$17,000
237.33 Content of bridge management program:		
(a) Inventory of railroad bridges	2,500	5,000
(b) Record of safe load capacity	5,500	10,000
(c) Provision to obtain and maintain:		
(i) Design documents	5,500	10,000
(ii) Documentation of repairs and modifications	2,500	5,000
(iii) Inspection reports	2,500	5,000
(d) Bridge inspection program content	2,500	5,000
Subpart C—Qualification and Designation of Responsible Persons		
237.51 Railroad bridge engineers:		
(a) Competency	5,500	10,000
(b) Educational qualification	2,500	5,000
237.53 Railroad bridge inspectors	5,500	10,000
237.55 Railroad bridge supervisors	5,500	10,000
237.57 Designation of individuals	2,500	5,000
Subpart D—Capacity of Bridges		
237.71 Determination of bridge load capacities:		
(a) Safe load capacity	5,500	10,000
(b) Load capacity documented	5,500	10,000
(c) Load capacity determined by a railroad bridge engineer	5,500	10,000
(d) Method of load capacity determination	2,500	5,000
(e) Prioritization of load capacity determination	2,500	5,000
(f) New load capacity determined due to change in condition	2,500	5,000
(g) Load capacity stated in terms of weight and length of equipment	2,500	5,000
(h) Restriction on operations by railroad bridge engineer	5,500	10,000
237.73 Protection of bridges from over-weight and over-dimension equipment:		
(a) Instructions issued	5,500	10,000
(b) Weight instructions	2,500	5,000

APPENDIX B TO PART 237—SCHEDULE OF CIVIL PENALTIES [1]—Continued

Section [2]	Violation	Willful violation
(c) Dimensional instructions	2,500	5,000
(d) Incorrect instructions issued	2,500	5,000
Subpart E—Bridge Inspection		
237.101 Scheduling of bridge inspections:		
(a) Scheduling:		
(i) Failure to inspect	9,500	17,000
(ii) Inspection within calendar year	2,500	5,000
(iii) Inspection frequency exceeding 540 days	2,500	5,000
(b) Increased inspection frequency	5,500	10,000
(c) Special inspections	2,500	5,000
(d) Resumption of railroad operations prior to inspection & review	9,500	17,000
237.103 Bridge inspection procedures	2,500	5,000
237.105 Special inspections:		
(a) Procedures to protect train operations and requiring special inspections	2,500	5,000
(b) Provision for the detection of scour or underwater deterioration	2,500	5,000
237.107 Conduct of bridge inspections	5,500	10,000
237.109 Bridge inspection records:		
(a) Record of inspection	2,500	5,000
(b) Inspection record:		
(i) Certification and date	2,500	5,000
(ii) Falsification		17,000
(c) Inspection record information	2,500	5,000
(d) Initial report within 30 days	2,500	5,000
(e) Final inspection report within 120 calendar days	2,500	5,000
(f) Retention	2,500	5,000
(g) Prompt reporting of dangerous conditions	5,500	10,000
237.111 Review of bridge inspection reports.		
(a) Review by railroad bridge engineers and supervisors	2,500	5,000
(b) Appropriate action concerning present or potential safety hazards	5,500	10,000
(c) Modification of inspection frequency or procedures	2,500	5,000
(d) Scheduling remedial action	2,500	5,000
(e) Higher-level review	2,500	5,000
Subpart F—Repair and Modification of Bridges		
237.131 Design	5,500	10,000
237.133 Supervision of repairs and modifications	5,500	10,000
Subpart G—Documentation, Records and Audits of Bridge Management Programs		
237.151 Audits; general	2,500	5,000
237.153 Audits of inspections	2,500	5,000
237.155 Documents and records:		
(a) Electronic recordkeeping, general	2,500	5,000
(b) System security	2,500	5,000

[1] 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.

[2] The penalty schedule uses section numbers from 49 CFR part 237. If more than one item is listed as a type of violation of a given section, each item is also designated by a "penalty code," which is used to facilitate assessment of civil penalties, and which may or may not correspond to any subsection designation(s). For convenience, penalty citations will cite the CFR section and the penalty code, if any. FRA reserves the right, should litigation become necessary, to substitute in its complaint the CFR citation in place of the combined CFR and penalty code citation, should they differ.

Issued in Washington, DC, on July 7, 2010.

Joseph C. Szabo,

Administrator, Federal Railroad Administration.

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