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**Brake System Safety Standards for Freight
and Other Non-Passenger Trains and
Equipment; End-of-Train Devices; Final
Rule**

DEPARTMENT OF TRANSPORTATION**Federal Railroad Administration****49 CFR Part 232**

[FRA Docket No. PB-9; Notice No. 21]

RIN 2130-AB52

Brake System Safety Standards for Freight and Other Non-Passenger Trains and Equipment; End-of-Train Devices**AGENCY:** Federal Railroad Administration (FRA), DOT.**ACTION:** Final rule; response to petitions for reconsideration.

SUMMARY: On January 17, 2001, FRA published a final rule revising the regulations governing braking systems and equipment used in freight and other non-passenger railroad train operations. The revisions were intended to achieve safety by better adapting the regulations to the needs of contemporary railroad operations and facilitating the use of advanced technologies. The revisions were issued in order to comply with Federal legislation, to respond to petitions for rulemaking, and to address areas of concern derived from experience in the application of existing standards governing these operations. On August 1, 2001, FRA published an initial response to petitions for reconsideration of the final rule which addressed the issues and concerns raised in the petitions related to the periodic maintenance requirements contained in subpart D of the final rule. In this document, FRA responds to the concerns of various interested parties raised in their petitions for reconsideration of the final rule that pertain to the remaining portions of the final rule. This document clarifies and amends the final rule, where necessary, in response to the petitions for reconsideration.

EFFECTIVE DATE: The amendments to the final rule are effective April 10, 2002.**FOR FURTHER INFORMATION CONTACT:** James Wilson, FRA Office of Safety, RRS-14, 1120 Vermont Avenue, Stop 25, Washington, DC 20590 (telephone 202-493-6259), or Thomas Herrmann, Trial Attorney, Office of the Chief Counsel, RCC-10, 1120 Vermont Avenue, Stop 10, Washington, DC 20590 (telephone 202-493-6053).**SUPPLEMENTARY INFORMATION:****Background**

On January 17, 2001, FRA issued a final rule revising the Federal safety standards governing braking systems and equipment used in freight and other

non-passenger railroad train operations. See 66 FR 4104. The effective date of the final rule was May 31, 2001. See 66 FR 9906 (February 12, 2001) and 66 FR 29501 (May 31, 2001). In response to the final rule, FRA received six petitions for reconsideration from seven parties raising various issues related to a number of the provisions contained in the final rule. These petitioners included the following:

Association of American Railroads (AAR), American Short Line and Regional Railroad Association (ASLRRRA), American Public Transportation Association (APTA), Brotherhood of Locomotive Engineers (BLE), New York Air Brake Corporation (NYAB), Rail Passenger Car Alliance (RPCA), and Union Pacific Railroad Company (UP).

On August 1, 2001, FRA published an initial response to the petitions for reconsideration of the final rule addressing those issues raised in the petitions related to the periodic maintenance and testing requirements prescribed in subpart D of the final rule. See 66 FR 39683. FRA believed that it was necessary to address these issues as quickly as possible because the periodic maintenance and testing requirements prescribed in subpart D of the final rule had a compliance date of August 1, 2001. Due to the complexity of some of the issues raised in the petitions for reconsideration on other provisions of the final rule, FRA decided to address the issues related to subpart D in its initial response to the petitions and then issue a follow-up response addressing the issues pertaining to other portions of the final rule. See *id.* This document is FRA's follow-up response and addresses all outstanding issues raised in the petitions for reconsideration.

The specific issues and recommendations raised in the petitions for reconsideration, and FRA's response to those petitions is discussed in detail in the "Section-by-Section Analysis" portion of the preamble. The section-by-section analysis also contains a detailed discussion of each provision which is being clarified or amended from the January 17, 2001 final rule. This will enable the regulated community to more readily compare this document with the preamble discussions contained in the final rule and will aid the regulated community in understanding the requirements of the rule. All of the changes being made to the final rule in this response to the petitions for reconsideration are intended to be clarifying or technical amendments or are within the scope of the issues and options discussed, considered, and raised in either the 1998 Notice of

Proposed Rulemaking (NPRM) or the final rule.

I. Discussion of Regulatory Evaluation Concerns

In the joint AAR and ASLRRRA petition for reconsideration of the final rule (hereafter referred to as AAR's petition), the parties raise a number of concerns regarding FRA's Regulatory Impact Analysis (RIA) of the final rule. Generally, the AAR contends that the final rule is not cost effective. The AAR asserts that FRA's RIA understates the costs and overstates the benefits of the final rule. The AAR calculates that the costs related to the final rule will exceed the benefits by more than \$65 million. FRA disagrees with both AAR's assumptions and its conclusions regarding the agency's RIA. In response to AAR's petition, FRA has carefully examined each of the cost and benefit issues raised by AAR in its petition. Each of the major issues and concerns is discussed in detail below.

A. Cost Issues**1. Dynamic Brake Repairs**

AAR claims that the final rule provision requiring that dynamic brakes be repaired within 30 days of becoming defective will cost the industry approximately \$7.5 million more than the \$5.5 million FRA estimated in the RIA. In the RIA, FRA estimated the cost of this requirement based on the amount of time it would take to conduct the required repairs, which FRA estimated at eight hours, to which FRA added two hours to cover the movement of the locomotive into and out of the shop and to account for clean-up time. See RIA at 24-25. AAR does not appear to question FRA's estimate of ten hours for actual repair and incidental movement time. However, AAR bases its higher estimate on the belief that the correct cost of this requirement should be the time out of service incurred by a locomotive to make the required repair and that this out-of-service time should be estimated at 24 hours. AAR arrived at the 24-hour out-of-service time figure by maintaining that the locomotive is out of service both before and after the required repairs are made for a period of approximately 24 hours. AAR contends that the time required to make the necessary repairs should not be the basis of the estimate because railroads will make the repairs anyway, just not within the newly prescribed 30-day time period in some cases. Thus, the AAR asserts that the locomotive out-of-service time prior to and after the repairs are made is the proper basis for estimating the cost of this requirement.

As noted in the RIA, FRA strongly disagrees with AAR's suggestion that an estimate of 24 hours of downtime should be used as the basis for the cost estimate. See RIA at 24. FRA believes that time spent waiting for repairs to be performed or waiting after the repairs are completed is not properly viewed as a new regulatory burden associated with the rule. The final rule allows railroads 30 days from the date a locomotive is first discovered with defective dynamic brakes to make the necessary repairs. The 30-day allowance was provided to permit railroads to better plan and manage their locomotive fleet without disruption to their operations. The RIA assumes that railroads will act in the most efficient and cost effective manner to meet the requirements of the final rule. With proper planning and management, there should be no need for locomotives to make special trips to repair facilities, and with proper planning locomotives should not have to wait extended amounts of time for repair and movement out of repair facilities.

Moreover, FRA disagrees with the assumptions used by AAR to calculate the amount of downtime a locomotive would incur to meet the requirements of the regulation. AAR calculations are based on the assumption that a locomotive is used 24 hours a day, seven days a week. This is an unrealistic assumption as it is well known in the railroad industry that virtually no locomotive is used to this extent. Secondly, AAR's calculation fails to take into account that locomotives would be in repair facilities for other repairs at which time the dynamic brakes could be repaired. The 30-day window provided by the final rule for making dynamic brake repairs is intended to allow railroads flexibility in scheduling such repairs to coincide with time periods when a locomotive is not in service or when the locomotive is undergoing other necessary repairs. Thus, FRA believes that AAR greatly overestimates any locomotive downtime related to the final rule requirement. Therefore, even assuming *arguendo* AAR's costing method, the 10 hours costed by FRA for this provision is reasonable. In fact, it is very conceivable that FRA's cost estimate here may actually be high, and that the actual cost may be lower to the railroads than FRA has estimated. However, FRA deliberately chose to use a very conservative number in determining its cost estimate.

2. Train Handling Information

AAR claims that the final rule requirement to provide certain

information to the train crew will cost the industry \$12 million more than the \$4.4 million estimated by FRA. See 66 FR 4203, RIA at 22. Specifically, AAR contends that the provision to provide information to train crews regarding the performance of Class I brake tests requires more information (number of cars, place, time, date, and name of inspector) to be transmitted to a greater number of trains than is currently required. The old regulation allowed for required information on performance of initial terminal brake tests to be provided orally on trips under 500 miles and mandated that required information be provided in writing on trips over 500 miles and on trains where the inspector goes off duty before a train crew comes on duty. The final rule requires that certain information be provided to train crews for all trains receiving Class I brake tests, including those on trips under 500 miles, and that a written or electronic record of the information be maintained in the cab of the controlling locomotive.

In the RIA, FRA based its cost calculations on the assumption that an additional 300,000 train starts, for trains traveling less than 500 miles, would be affected by the final rule requirement. See RIA at 22. AAR contends that FRA's 300,000 train start assumption is incorrect because AAR contends that there are over 1,000,000 train starts where the train will travel less than 500 miles and that this is the actual number of trains that will be affected by the final rule. However, a close examination of AAR's cost estimate reveals that the 1,000,000 train starts does not discount for the existing regulatory requirement that a written record is to be provided by the person performing an initial terminal brake inspection for any train when the inspector goes off duty prior to the operating crew coming on duty. See 49 CFR 232.12(a)(2). Moreover, AAR's cost estimate does not address the issue of how many of the 1,000,000 train starts it identifies would be considered transfer trains that would not require the transmission and retention of the involved information. FRA believes that had these factors been considered the number of affected train starts would be close to FRA's estimate contained in the RIA. Consequently, in light of these factors and in light of the fact that there are no readily available data on the number of trains traveling under 500 miles, FRA believes its cost estimate of 300,000 affected train starts is reasonable.

3. Retesting of Cars

AAR further contends that the final rule provision requiring the retest of

cars found with brakes not to be applied during a required brake test will cost the industry \$17.4 million more than FRA's cost estimate of \$8.2 million contained in the RIA. In the RIA, FRA's estimate is based on the assumption that 75,000 cars would need to be retested annually pursuant to the final rule. See RIA at 20. However, AAR bases its estimate of approximately \$25 million by using 150,000 cars as the number of rail cars affected by the retest provision and by using increased labor costs that it derived from "survey" results of some of its member railroads. AAR provided no other pertinent information concerning the "survey" cited, only the results.

FRA essentially cut the AAR's number in half when developing the RIA for the final rule, which doubled the costs estimated in the NPRM based on FRA's agreement with certain AAR comments submitted in response to the NPRM. If AAR's numbers presented in its petition are accurate, then 10 percent of the rail car fleet would require a retest each year. FRA continues to believe that this percentage is much too high. FRA believes that a large portion of the fleet that fails a brake test does so for obvious reasons. These cars would simply be removed from the train and repaired where found defective. Consequently, such cars would not be affected by the retest provision contained in the final rule. Again, it should be noted that details about AAR's survey (*e.g.*, methodology, the number of railroads surveyed, questions asked, and information sought) were not provided to FRA in AAR's petition for reconsideration. FRA continues to believe that its cost estimate for this provision is reasonable and that 75,000 cars (5 percent of the fleet) may, in fact, be overestimating the number of retests that will be required. However, FRA again preferred to be conservative when developing the RIA for the final rule. If FRA were to accept the AAR's estimate that 150,000 cars would need to be retested, FRA would also have to conclude that the freight car fleet is in significantly worse condition than FRA believes to be the case and would have to reconsider requiring more vigorous action to keep freight cars in good repair.

4. Piston Travel Stickers/Decals/Stencils

AAR also asserts that the final rule requirement to affix a sticker, decal, or stencil on rail cars indicating permissible piston travel will cost the industry \$3 million more than FRA's estimate of approximately \$3.4 million contained in the RIA. AAR contends that the requirement to have these

indicators affixed on rail cars by April 1, 2004, will result in cars having to be taken out of service solely for the purpose of applying the required decal, sticker, or stencil. It should be noted that AAR did not raise this issue in its comments on the NPRM issued in 1998. In its petition, AAR now estimates that 20 percent of the cars requiring the labeling will need to be removed from service.

FRA strongly disagrees with AAR's analysis of this provision. FRA believes that the time permitted in the final rule is sufficient for railroads to comply with the requirement. On average, rail cars are placed on a fixed repair track or a sidetrack where repairs are conducted approximately once every one-and-one-half years. The task of applying a sticker, decal, or stencil takes only a few minutes to accomplish, and FRA has allowed numerous ways for railroads to comply with the requirement. As a matter of fundamental sound economics, good business practice, and effective utilization of employee time and company resources, FRA assumes the railroads will use the most cost-effective option (i.e., applying stickers or decals to a rail car while performing other functions rather than taking it out of service unnecessarily) when placing piston travel information on rail cars. The most reasonable approach to complying with the requirement is to apply the sticker, stencil, or decal when an inspection or repair is being conducted on the rail car. Therefore, FRA maintains that railroads will not incur the excessive costs estimated by AAR when less expensive alternatives for achieving compliance are utilized. Consequently, FRA continues to believe that the RIA cost estimate for this requirement is reasonable.

5. Training

The AAR further alleges that the training requirements contained in the final rule will cost the industry between \$8.3 million and \$19 million more than FRA's RIA estimate of approximately \$61 million. Although FRA is not unmindful that the costs associated with the training requirements represents the single highest cost item associated with the final rule, FRA believes that AAR has seriously overestimated the costs of the training requirements in its petition. Furthermore, in response to the training concerns raised by AAR in its petition, FRA is modifying some of the training requirements contained in the final rule to reduce the initial training burdens, particularly for existing employees as discussed in detail in the section-by-section analysis below. Thus, many of the costs implications cited by AAR in

its petition will be reduced as existing employees will be permitted to "test out" or be certified as having received part of the initial training.

In addition to the regulatory changes, which will significantly reduce the cost of initial training for existing employees, AAR also overestimated the cost of the training requirements in its petition. In its petition, AAR's costs assume a much greater labor cost than FRA assumed when developing the RIA for the final rule. AAR estimated an average labor cost of approximately \$48 per hour/per employee to conduct the required training. However, the final rule's RIA relied on a labor cost of \$35 per hour/per employee. See RIA at 32a. FRA based its final rule labor costs on the fact that the RIA related to the NPRM used an estimate of \$35 per hour for the cost of employee time for training purposes, and it noted that this figure was obtained from a 1995 AAR submission. Although the AAR did express concerns with the training costs in two different comments submitted in response to the NPRM, AAR never objected to FRA's use of the \$35 per hour labor cost for employee time. AAR did not object to \$35 per hour labor cost for employee time even though the cost estimate was several years old and was not adjusted for inflation. Thus, notice and comment were properly provided on this cost estimate and no objections were raised regarding its use. Consequently, FRA's use of the dollar figure in the final rule should be considered reasonable.

AAR's petition also asserts that the FRA's training costs in the RIA omit the cost of training materials and other miscellaneous costs. The RIA for the final rule suggests that trade groups such as AAR and ASLRRA would develop training programs for member railroads. In fact, FRA assessed costs of \$200,000 for each of these groups for initial development of such training programs. See RIA at 30. Additionally, FRA assessed an annual cost of \$40,000 for training on new brake systems and for adjustments in training programs. Incorporated in FRA's cost estimates for training are all costs related to the development of a training program, including the costs of materials, and other miscellaneous costs.

In its petition, AAR also states that the training and recordkeeping requirements are particularly burdensome for small railroads. AAR expresses concern that the training requirements will not allow flexibility for the small railroads so that their workers can be trained for the unique operation and environment they encounter daily. However, FRA notes

that the final rule requires railroads and contractors to develop training programs that provides the skills needed to inspect, test, and maintain the brake equipment. FRA continues to believe that the unique environment and operating characteristics of small railroads will itself provide flexibility for compliance with the training requirements. This is feasible because the training programs can be tailored to the skills needed by the various employees on each railroad. Since small railroads have less sophisticated operations and older equipment, many of the tasks relating to inspection, testing, and maintenance of brake equipment that personnel of larger railroads are required to perform would not have to be performed by many of the employees on smaller railroads. Therefore, much of the training being provided on larger railroads would not be required to be provided on many smaller railroads. For example, most small railroads do not operate trains with two-way end-of-train devices or dynamic brakes, and therefore, they would not have to provide training for such equipment. Similarly, many smaller railroads do not conduct much of the brake system maintenance or some of the brake inspections and tests mandated under the final rule and thus, training on those tasks would not be required. Correspondingly, as the training requirements lessen for smaller railroads, the recordkeeping burdens attached to the training requirements will also be reduced.

The AAR's petition also contends that some of the final rule recordkeeping requirements related to training are unnecessary and should be eliminated. Specifically, AAR requests the elimination of the requirement to retain a description of the employee's "hands-on" performance applying the skills and knowledge the employee needs to possess to perform the tasks for the employee is assigned responsibility. AAR professes that it finds little value in this requirement. FRA maintains that the short description (a few sentences) involved in maintaining this record is not particularly burdensome and that it will assist FRA in its oversight responsibilities. AAR also seeks elimination of the requirement to notify employees of their qualification status as AAR finds little value in this requirement. AAR contends that an employee will learn the status of his qualifications regardless of any regulatory requirement. However, FRA continues to believe that employees need a current record of their qualification status to ensure that no

discrepancies exist between what employees believe their qualifications are and what the company records indicate, especially since employees may be held individually liable for violations of the final rule and subject to various civil sanctions.

In addition, AAR's petition requests the elimination of the requirement to maintain a record of the tasks that each employee is qualified to perform. AAR claims that this information can be gleaned from the information regarding the content of the training course, a record the final rule also requires railroads to maintain. FRA, on the other hand, continues to believe that this information is basic to any training program and should not be very difficult or expensive for railroads to maintain. Moreover, this information is necessary so that there is a specific record describing the tasks that each employee is qualified to perform relating to inspections, testing, and maintenance of brake systems. Such a record will not only assist FRA in its oversight responsibilities but will also assist the railroads in ensuring that properly qualified personnel are used to conduct the various tasks required by the final rule. It should be noted that this type of requirement is not unique or new to the federal regulations; FRA has similar requirements related to retaining the qualification status of roadway workers. See 49 CFR 214.343.

The AAR's petition also requests the elimination of the requirement to maintain a record of the identity of the person determining an employee's qualification status. AAR again claims that there is little value in retaining this information, even for enforcement purposes. FRA believes that this information is very basic and should not be difficult, time consuming, or expensive for railroads to maintain. Not only is this record necessary for FRA's oversight responsibilities, but FRA believes that such documentation will assist both the railroads and FRA in assessing the effectiveness of the training provided to employees. The railroads as well as FRA may be able to utilize such information to assess the reasons for the employees' failure to properly perform their required duties, e.g., deficiencies in the training program, the person(s) determining the employee's qualification, or the employees themselves. Last, AAR's petition seeks elimination of the requirement to maintain a record of the date that an employee's qualification status expires. AAR contends that this date will be automatically determined based on the date that the employee completes the required training courses.

FRA continues to believe that this is basic information that should not be difficult or expensive for railroads to maintain, particularly after AAR's own assessment of how simple it is to calculate the information. In summary, FRA continues to maintain that virtually all of the training information that is required to be maintained by the final rule is currently retained by most railroads in some fashion or another or is not very burdensome to develop and maintain and provides information that is useful to both FRA and the railroads.

B. Benefits

In its petition for reconsideration, AAR raised three major concerns regarding FRA's RIA estimates of the benefits related to the final rule. Each of the three major issues is discussed in detail below.

1. Double Counting of Preventable Accidents

In its petition, AAR claims that FRA has double-counted the accident avoidance benefits related to the final rule. AAR asserts that the RIA for the final rule assumes accident avoidance safety benefits for accidents that were already accounted for in FRA's final rule on two-way end-of-train devices (EOTs) issued on January 2, 1997. See 62 FR 278. According to AAR, this reduces the \$57.5 million safety benefits assumed in the final rule's RIA by \$8.9 million.

FRA's final rule on two-way EOTs utilized an accident data set for calculating the rule's safety benefits which was very specific. Sixteen accidents that occurred between 1991 and 1996 were specifically targeted by that rulemaking. See 62 FR 291. All of the accidents in that data set had either E03C or E04C as the FRA-assigned accident cause code. Effectiveness rates of between 0.9 and 0.5 were assessed for those accidents. The focus of the two-way EOT rulemaking was to prevent train accidents which resulted directly from brake pipe constriction or obstruction. See 62 FR 291. Two-way EOTs are intended to reduce the risk of this type of accident by providing the locomotive engineer the ability to initiate an emergency brake application at the rear of the train. Because the two-way EOT rule did not apply to all train operations, the data set of preventable accidents did not capture all E03C and E04C type accidents. Specifically, the two-way EOT rulemaking provides exclusions for local trains, trains with an occupied caboose, passenger trains with emergency brakes, trains that do not exceed 30 miles per hour or operate on heavy grades, and trains that operate

on trackage not connected to the general railroad system. Freight trains equipped with a locomotive which has the ability to initiate a brake application located at the rear of the train were also excluded, as were trains equipped with an independent secondary braking system.

The RIA for this final rule included all brake-related accidents, including obstructed brake pipe accidents, and other related accidents. In the preamble to the final rule and in the RIA, FRA noted that it did not claim 100 percent effectiveness on those accidents used in relation to the two-way EOT rulemaking and, thus, utilizing these accidents in this final rule was acceptable. See 66 FR 4107, RIA at 41. Because of this overlap, it was FRA's intention to utilize a 10 percent effectiveness for those accidents cited in both the RIA related to the two-way EOT rulemaking and the RIA related to this final rule. Thus, it was FRA's intention to ensure that no individual accident would be assessed with a combined effectiveness rate of greater than 100 percent. FRA concedes that it erred in the final rule's RIA by referring to the accidents which could be found in both rulemaking data sets as only E04C cause code accidents. In actuality, the overlapping accidents had cause codes of both E03C and E04C. Other codes were also present as the primary cause based on railroad information comprising the EOT data set of accidents. FRA also erred in the final rule RIA by referring to "brake pipe obstruction" accidents as having an E04C cause code when in actuality they should have had an E03C cause code. Although FRA erred in identifying the proper cause code, FRA did intend to include brake pipe obstruction accidents in the final rule's safety benefit calculation.

Although AAR contends that there are two major accidents involving an obstructed brake-pipe that FRA has "double-counted" by including them in the safety benefits of both the two-way EOT rulemaking and this final rule, FRA believes the characterization is misleading. Double-counting would be claiming credit for preventing the same accident twice at 100 percent effectiveness each time it was claimed. As noted above, it was FRA's intention only to take credit for the remaining 10 percent effectiveness in this final rule for the specific accidents which were included in the data set for the two-way EOT rulemaking. These accidents included the two accidents that occurred in Cajon, California in 1994 and 1996 as well as an accident that occurred in 1996 near St. Paul, Minnesota. However, the RIA for this final rule actually applied an

effectiveness rate of 10 percent on only one of three relevant accidents. Unfortunately, with regard to the other two accidents, FRA inappropriately utilized an effectiveness rate of 50 percent. See RIA at 42b. Thus, FRA agrees with AAR's assertion that FRA miscalculated the safety benefits to be derived from these two accidents.

To correct for this error, the safety benefits related to the final rule should be revised to reflect a 10 percent effectiveness rating for the two accidents which are in both data sets. FRA is completely confident that if there is compliance with both the two-way EOT rule and this final rule this type of obstructed-brake-pipe accident would not occur today. Therefore, after FRA corrects the effectiveness rate for the two accidents which had been incorrectly calculated, the final rule's safety benefits change slightly. The value of annual safety benefits decreases from approximately \$5.9 million per year to approximately \$5.3 million per year. Consequently, the total discounted safety benefits for the twenty-year period decreases from \$57,455,262 to \$51,147,531, a decrease of approximately \$6.3 million. Therefore, although FRA agrees with AAR's general contention that FRA erred in calculating the estimated safety benefits related to the final rule, it should be noted that the error is significantly less than claimed by AAR in its petition. Moreover, the admitted error does not change the overall fiscal soundness of the final rule's RIA or the necessity for the final rule.

2. Value of Avoided Injuries

AAR also asserts that FRA's RIA claim of \$330,000 as the value of an avoided moderate injury is at least six times higher than any estimate known to AAR and is not supported by the articles cited in the RIA. AAR contends that if a more traditional approach were taken to estimating the value of avoiding a moderate injury, then the estimated safety benefits would be reduced by \$7.9 million. In the RIA related to the NPRM, FRA stated that it would use the Abbreviated Injury Scale (AIS) to determine the value of prevented injuries. It was noted that \$330,750 was the mid-point between an AIS 3 (\$155,250) injury and an AIS 4 (\$506,250) injury. Thus, notice was provided to the AAR regarding FRA's intent to use the mid-point of the AIS, a value of approximately \$330,000, to calculate the value of avoided injuries. The RIA for the NPRM used this single value for all injuries. FRA is not aware of any railroad or AAR comment received by the agency during the

NPRM comment period that addressed or objected to this estimated value for avoided injuries.

The RIA for the final rule provided different values for prevented injuries based on injury severity where the severity of the injury could be determined based on the information available to FRA. See RIA at 42b, 43. Minor, moderate, and severe injuries were valued at \$5,000, \$330,000, and \$1,200,000, respectively. If the severity of the injury could not be determined, it was assessed as a moderate injury. In the final rule's RIA, FRA used \$330,000 for the value of a moderate injury prevented, instead of \$330,750, for simplicity and rounding purposes. FRA noted that the values for prevented injuries were not directly based on an AIS percentage of a statistical life or subsequent dollar values. See RIA at 43. However, FRA stated that they were based on the same "willingness-to-pay" approach to injury prevention as the AIS. See RIA at 43. FRA assessed minor injuries at \$5,000; an AIS 1 injury is valued at \$5,400. FRA used \$1,200,000 as the value of a severe injury; the mid-point between an AIS 4 and AIS 5 injury is \$1,282,500. An AIS 5 injury is assessed at a value of \$2,058,750. As its standard for calculating fatal injury, FRA utilizes the United States Department of Transportation's (DOT's) value, which is currently \$2.7 million per life saved or fatality averted. All of the injury values are related to this conservative value of a statistical life. This is a value for which there is a large amount of variation. The values range between \$1.5 million and \$5.8 million, with a mean value of \$4.8 million per statistical life saved.

The RIA to the final rule did provide two footnotes in its discussion on the prevented injuries. See RIA at 43. The first footnote, which immediately followed a quote, provided the citation on the "willingness-to-pay" method of valuing a life. The second footnote followed a quote and a paraphrased sentence. The second footnote also provided a citation for the pertinent journal article. The paragraph where these quotes were located was intended to provide the justification and discussion on the use of the "willingness-to-pay" approach for assessing values of prevented injuries. Sources were cited so that a reader could review the relevant methodology. This discussion provided the details of what such a value included, and the article referenced was appropriately cited. It should be noted that this discussion was provided in a separate paragraph from the one which discussed the various monetary values of the

different injury severities. Hence, the footnotes and the source citations were not related to the monetary values which FRA used in this analysis, but rather were a description of what is incorporated in the "willingness-to-pay" method of valuing a human life. Unfortunately, AAR read and interpreted the footnotes out of context. Consequently, FRA continues to believe that monetary values placed on the different injuries and the estimated safety benefits for the final rule are reasonable and sufficiently conservative.

3. Business Benefits (Cost Savings)

In its petition, AAR also alleges FRA improperly credits benefits for eliminating two non-existent regulatory burdens. AAR contends that removing the benefits related to these two non-existent requirements reduces the stated benefits of the final rule by approximately \$25.2 million. Specifically, AAR argues that FRA takes credit for eliminating the requirement for brake connection bottom rod safety supports on bottom connection rods. AAR also argues that FRA claims a benefit for eliminating the prohibition against using an EOT device to determine and report rear car air pressure at the rear of the train during the performance of initial terminal type air brake tests.

The former power brake regulation, as it existed prior to May 31, 2001, has a provision in § 232.12(d)(1) that requires that the inspection ensure that the "brake rigging is properly secured and does not bind or foul." This requirement does not specifically require brake connection bottom rod safety supports, but, with the design of some cars, the supports become necessary to fulfill this requirement. Prior to the issuance of either the NPRM or the final rule, FRA issued a technical bulletin to its field inspectors and the industry stating that "bottom rod safety supports" would be required only on those cars that have the bottom rod or handbrake bottom rod below the bolster. See FRA Technical Bulletin MP&E 98-6 (June 15, 1998). FRA issues technical bulletins to provide enforcement and interpretative guidance to its field inspectors and members of the regulated community. Technical bulletins which provide enforcement discretion guidance are a matter of policy; are subject to change; and are not to be considered changes or modifications to an existing regulatory requirement.

In the RIA related to the NPRM, an \$11 cost associated with the replacement of a bottom rod safety support was supplied by AAR and cited

in a footnote. See NPRM RIA at 20. Because AAR supplied a cost for replacing bottom rod safety supports, AAR implied that the supports were replaced by some member railroads. The estimate of 27,800 annual replacement of these supports was used in the RIA for both the NPRM and final rule, and this number was not disputed. The preamble to the final rule delineates the difference between the previously issued technical bulletin, discussed above, and the additional flexibility being provided by the final rule. In the preamble discussion of § 232.205(b)(7), FRA makes clear that brake connection bottom rod supports will no longer be required on bottom connection rods secured with locking cotter keys. See 66 FR 4170. FRA recognized that there is no need for bottom rod safety supports in these instances and intended to relieve railroads of this unnecessary expense. Thus, the previously issued technical bulletin and the final rule were giving relief from using bottom rod safety supports in two different circumstances. The previously issued technical bulletin made clear that bottom rod safety supports would be required *only* on cars with the bottom rods and handbrake rods below the bolster. See Technical Bulletin MP&E 98-6. However, the final rule also eliminated the need to use bottom rod safety supports in the additional circumstance where a car's bottom rod is secured with cotter keys equipped with a locking device to prevent their accidental removal. See 66 FR 4170, 4203, and RIA at 35. Therefore, the final rule provides relief from the requirement to use bottom rod safety supports that is over and above the guidance provided in the previously issued technical bulletin. Based on the above discussion and because the bottom rod safety rod exemption was specifically acknowledged in regulation (albeit for the first time), FRA believes that it is reasonable and proper to consider the flexibility provided by the final rule as a benefit to the industry.

FRA also disagrees with AAR's assertion that there is no benefit derived from the final rule's allowance to utilize an EOT device when conducting a Class I brake test. In the RIA and preamble related to the NPRM, FRA noted that benefits exist but were not estimated (quantified) regarding the use of EOT devices during the performance of Class I brake tests. See 63 FR 48350, NPRM RIA at 20. At that time, FRA noted that there was an operational benefit from allowing the use of an EOT when performing a Class I/initial terminal brake test when such inspections are

performed at intermediate pick-ups; however, FRA did not have an estimate of how many intermediate pick-ups would be affected by this allowance. In the RIA for the final rule, FRA was able to estimate or quantify this benefit with information that the AAR provided in its comments on the NPRM. See RIA at 36-38.

AAR states that there is no prohibition on the use of EOT devices when conducting initial terminal type brake tests pursuant to part 232 as it existed prior to May 31, 2001. FRA disagrees with the AAR's assertion. In § 232.13 of the former rule, FRA specifically allows for the brake pipe pressure to be indicated in an intermediate terminal train air brake test by a rear car "gauge or device." Section 232.13(g) of the former rule defines a "device" as a system of components designed and inspected in accordance with § 232.19. Section 232.19 of the former rule contains design standards for EOT devices. When issuing the regulations in 1986, permitting the use of EOT devices when performing certain brake tests, FRA specifically revised only the provisions related to intermediate terminal inspections. See 51 FR 17300 (May 9, 1986).¹ FRA did not revise the initial terminal brake test requirements contained in § 232.12 of the former regulation to permit the use of a "device" to determine the train line air brake pressure at the rear car of a train. Section 232.12 of the former regulation only permits the air pressure at the rear of the train to be determined by a brake pipe gauge. If FRA had intended to permit the use of an EOT device when conducting brake inspections pursuant to § 232.12 (c)-(j), it would have modified those provisions in 1986. Consequently, it was obviously FRA's intent not to permit the use of such devices when conducting initial terminal brake inspections. Moreover, FRA has always interpreted the regulation to require that a person be stationed at the rear of the train to determine brake pipe pressure at the rear of the train when conducting a brake inspection pursuant to the

¹ It should be noted that § 232.13(d)(1) and (d)(2) of the former rule specifically requires that all cars added to a train that have not been inspected pursuant to § 232.12(c)-(j) are to be so inspected when added to the train or may receive and intermediate brake inspection pursuant to § 232.13(d)(1) provided the cars are inspected pursuant to § 232.12(c)-(j) at the next terminal where facilities are available. Thus, all cars added to a train that were not previously tested and charged under § 232.12(c)-(j) would be required to be inspected under those provisions either when added to the train or at the next location where facilities are available for performing such an inspection.

requirements contained in § 232.12(c)-(j) of the former rule.

As the final rule specifically permits the use of an EOT device to indicate brake pipe pressure when conducting Class I/initial terminal brake tests, the industry derives an operational benefit that was not available under the former rule. As the final rule's RIA noted, this is not a benefit for all Class I/initial terminal brake tests. See RIA 36-38. It is a benefit that non-cycle trains that perform one or more pick-ups while en route are more likely to realize. Thus, a benefit is realized whenever cars that are added to a train are required to receive a Class I/initial terminal brake test at the time they are added to the train. FRA estimated that approximately seven percent of all train starts would engage in en route pick-ups requiring the performance of a Class I/initial terminal brake test that would benefit from this regulatory change. This benefit was calculated with very conservative estimates. FRA estimated that minimally 100,000 of the 1.4 million train starts would realize a benefit from using an EOT device when conducting a Class I/initial terminal brake test while en route. See RIA at 36-38. This estimate does not account for the likelihood that many of the 100,000 trains would engage in more than one en route pick-up. FRA estimated the savings as being minimally five minutes per use. Train delay value was estimated at \$250 per hour. This value was an estimate that was developed in the Positive Train Control (PTC) Working Group of the Railroad Safety Advisory Committee (RSAC), which included both industry and labor participation. Consequently, FRA believes that the operational benefits it estimated in the RIA that would be derived from the final rule's allowance for the use of EOT devices when conducting Class I brake tests are reasonable, proper, and very conservative.

In summary, FRA acknowledges that it erred in the final rule's RIA when estimating the safety benefits to be derived from the specific accidents included in the analysis. However, FRA believes that the error and resulting reduction in the safety benefits does not in any way compromise the integrity of the analysis or impact the decisions made by FRA, and does not change the necessity for any of the provisions contained in the final rule. Furthermore, FRA finds all the other economic issues raised by AAR in its petition for reconsideration to be either incorrect, unfounded, or unpersuasive. FRA continues to believe that it has been both reasonable in its cost estimates and

extremely conservative in its estimates of benefits related to the final rule. Moreover, FRA believes that the modifications and clarifications being made to the final rule in this response to the petitions for reconsideration will not only reduce the potential regulatory costs but will also increase the benefits associated with the final rule. Therefore, the costs and benefits quantified in the final rule's RIA are even more conservative than when originally calculated by FRA. Consequently, FRA strongly supports the economic arguments and estimates advanced in its RIA for the final rule.

II. Section-by-Section Analysis

Amendments to 49 CFR Part 229

FRA is not making any modifications to the provisions of part 229 affected by the final rule in response to the petitions for reconsideration or for any other reason. BLE's petition for reconsideration objected to FRA's removal of the phrase "in the cab" from the first sentence in § 229.53 as it existed before the issuance of the final rule. The phrase "in the cab" related to the location of the various brake gauges used by a locomotive engineer for braking a train or locomotive. FRA proposed the removal of the phrase "in the cab" from this section in the NPRM. See 63 FR 48354 (September 9, 1998). No objection was raised to this modification in any of the comments received in response to the NPRM. Although FRA did not provide a specific explanation for its removal in either the NPRM or the final rule, FRA believed then and continues to believe that the phrase is unnecessary and antiquated. FRA's intent when removing the language was to ensure that the gauges used by an engineer to aid in the control or braking of a train or locomotive were located so as to be read from the engineer's usual position when operating the locomotive, whether that be in the cab of the locomotive or elsewhere. FRA's intent when issuing the final rule was to accommodate and facilitate advanced technologies and designs. FRA believes that the language contained in both the NPRM and the final rule meets this intent while ensuring that essential information is provided to a locomotive engineer when operating a train or locomotive.

In a late filing to the docket (May 31, 2001), BLE raised a number of issues regarding FRA's discussion related to extending the testing interval for electronic locomotive gauges in § 229.27(b). In its submission, BLE expressed concerns with the way FRA portrayed the findings of the task force

considering issues related to electronically controlled locomotive brake systems. Although the preamble to the final rule does discuss the recommendations of a task force regarding electronically controlled locomotive braking systems, the preamble does not attribute the recommendations to the New Technology Joint Information Committee (NTJIC). The preamble to the final rule makes clear that the task force assembled for purposes of this rulemaking was merely made up of individuals that were also members of the NTJIC. See 66 FR 4144. Furthermore, the preamble to the final rule in no way indicates or alludes to FRA agreement with or endorsement of the recommendations made by the assembled task force, other than acceptance of the task force's recommendation to extend the testing interval for electronic locomotive gauges. See 66 FR 4144.

The preamble to the final rule focused solely on the reliability of electronic gauges used in electronically controlled locomotive brake systems and did not intend to address other issues related to the use and operation of such systems. FRA agrees with BLE that the field of electronically controlled locomotive brake systems is complex, and FRA does not believe that this rulemaking is the proper forum in which to address the many issues surrounding such systems. BLE's petition notes various forums where issues related to this technology are currently being discussed, considered, and researched. These include the NTJIC and the CSX Computer Controlled Brake waiver committee. FRA and BLE are actively participating in these groups, and FRA believes these forums are best suited, at this time, to address the issues and concerns related to the use and operation of electronically controlled locomotive braking systems.

Amendments to 49 CFR Part 232

Section 232.1 Scope and Section 232.3 Applicability

APTA's petition for reconsideration requests modification of these two sections to provide passenger railroads the option of inspecting and testing work trains operated on passenger railroads pursuant to the Passenger Equipment Safety Standards contained in 49 CFR part 238 rather than under the provisions contained in the final rule. APTA contends that this flexibility would eliminate the need for certain commuter operations to train their employees on both part 232 and part 238. Without this flexibility some

commuter operations will be required to have two different inspection, testing, and maintenance programs in place. APTA contends that there would be no adverse impact on safety because the inspection and testing requirements contained in part 238 are generally more stringent than those contained in the final rule. For consistency and enforcement purposes, APTA also suggests that passenger operations would have to decide under which part it would operate their work trains and such operations would not be allowed to mix the provisions of part 238 and part 232.

While FRA does not necessarily disagree with APTA's recommendation, FRA does not believe that the petition for reconsideration stage of this rulemaking is the proper forum in which to address this issue. Although APTA's recommendation appears reasonable in theory, FRA is unclear how APTA proposes to apply the provisions contained in part 238 to work trains used in passenger operations based on the information provided in APTA's petition. FRA believes that more information and consultation with affected parties is needed to determine how a passenger railroad would apply the mechanical and brake inspection and testing requirements contained in part 238 to its work trains. FRA believes that a detailed plan would need to be reviewed by FRA regarding a railroad's proposed application of part 238 to work trains. Consequently, FRA believes that APTA's request would be better handled through the waiver process detailed in 49 CFR part 211. This would allow both FRA and other interested parties to thoroughly review and assessed the proposed application of part 238 to such trains. FRA stresses that it believes APTA's recommendations and suggestions on this issue appear reasonable and that FRA is willing to consider them in the proper forum.

Section 232.5 Definitions

FRA is adding clarifying language to the introductory text of this section. The language is being added to prevent a potential misapplication of the definitions beyond that intended by FRA when issuing the final rule. Many of the general provisions contained in subpart A of the final rule became applicable to the industry on May 31, 2001, including the definitions contained in § 232.5. See § 232.1(b), 66 FR 4193. FRA made the definitions applicable as of May 31, 2001, because portions of the final rule (e.g., subpart E) became applicable on that date and

there are definitions in § 232.5 pertaining to those portions of the new rule. Although § 232.1(b) makes the definitions contained in § 232.5 applicable as of May 31, 2001, it was clearly FRA's intent to apply the definitions contained in this section only to the requirements contained in the text of the new final rule and not to the requirements contained in part 232 as it existed prior to May 31, 2001. This intent is evidenced in the final rule's preamble discussion related to the definitions in which FRA states: "FRA intends these definitions to clarify the meaning of important terms as they are used in the text of the final rule." See 66 FR 4146. Furthermore, FRA intended for specific definitions to become applicable only to those substantive portions of the new final rule that are applicable to the industry. This intent is evidenced by FRA's explicit statement that it would not require a "qualified person," as defined in § 232.5 of the final rule, to perform the required tasks under subpart D, which became applicable on August 1, 2001, until April 1, 2004 when the training requirements become applicable. See 66 FR 4145.

FRA believes that any attempt to apply the definitions contained in § 232.5 of the final rule to provisions contained in part 232 as it existed prior to May 31, 2001, would be not only inconsistent with FRA's intent when drafting the final rule but would create serious Administrative Procedure Act (APA) implications. Acceptance of such an argument would result in various definitional provisions of the final rule becoming applicable prior to the dates specifically established in § 232.1(b) of the final rule for applicability of the relevant substantive provisions. In effect, this would accelerate the applicability of those substantive provisions, imposing significant unintended regulatory burdens without proper notice. Furthermore, the preceding discussion establishes clear evidence of FRA's intent not to apply the definitions contained in the final rule to the provisions of part 232 as it existed prior to May 31, 2001. In contrast, there is absolutely no language or inference in the final rule's preamble or rule text to indicate that FRA intended to apply the definitions contained in § 232.5 of the final rule to any provision contained in part 232 as it existed prior to May 31, 2001. Consequently, any attempt to specifically apply the definitions contained in the final rule to provisions contained in part 232 as it existed prior to May 31, 2001, would likely result in

violation the APA for failing to provide proper notice and opportunity for comment prior to such action.

FRA is modifying the final rule definition of "effective brake" in response to a concern raised by the AAR in its petition. AAR objected to the terminology used in defining what constitutes an "effective brake." Specifically, AAR noted that the phrase "a brake that is capable of producing its required designed retarding force" creates an unquantifiable and unidentifiable standard. AAR recommends that this portion of the definition be eliminated and that FRA should limit the definition to piston travel limits.

The terminology to which AAR objects was specifically added into the final rule in response to concerns raised by the BRC in response to the NPRM regarding the definitions of "bind" and "foul" proposed in that document. See 66 FR 4146. In the preamble to the final rule, FRA explained that the language being added to the definition of "effective brake," regarding the ability of the brake to produce its designed retarding force, was an attempt to clarify the definition to address conditions that would render the brake ineffective yet would not be considered a condition causing the brake system to bind or foul as defined in the final rule. See 66 FR 4146. Rather than change the definitions of "bind" or "foul," FRA believed that additional language could be added to the definition of "effective brake" to cover those unique circumstances where, even though a condition may not cause a brake to "bind" or "foul," the condition would cause the brake not to operate properly and, thus, affect the retarding force applied by the brakes. FRA continues to believe that the language added to the definition of "effective brake" accomplishes this task. While FRA agrees that the language creates a standard that is somewhat difficult to apply in the field with great precision, FRA believes that the language is necessary to cover brake system or component problems that affect the proper operation of the brakes on a car but are not otherwise specifically identified by the regulation. The language is adequately precise for this purpose because an observer can tell whether the brake is applied in a way likely to exert substantially the braking force for which it was designed. Effectively, this is a "catch-all" performance standard designed to reach any problem not specifically called out in the rule that would prevent a brake from working properly.

However, FRA is modifying the definition of "effective brake" in order

to further clarify the term and avoid misapplication of FRA's intent. FRA is inserting the word "nominally" prior to the phrase "designed retarding force" in order to provide an allowance for any degradation in a brake system's designed retarding force that results due to normal wear and age. FRA's intent was not to consider retarding force reductions that occur due to normal use of a brake system or component. The definition is intended to capture those readily identifiable brake system problems that are not specifically addressed by other definitions contained in the final rule that result in a brake system or brake component not producing the retarding force it is designed to provide.

FRA is also modifying the definition of "solid block of cars" contained in § 232.5 of the final rule. FRA is modifying this definition in order to make it consistent with FRA's intent when issuing the final rule. Based on concerns raised by AAR regarding the inspection of solid blocks of car when added to a train, FRA realized that the final rule's definition of the term "solid block of cars" creates confusion and could potentially result in a misapplication of the final rule's inspection requirements. FRA agrees with the concerns raised by AAR in its petition that a strict reading of the definition may have resulted in entire trains being required to receive a Class I brake test when certain types of solid blocks of cars are added. FRA's intent was to permit the addition of a single solid block of cars without requiring the entire train to be inspected and focus the inspection requirements on the solid block of cars being added based on the composition of the solid block of cars. See 66 FR 4148, 4168.

Therefore, the definition of "solid block of cars" is being modified by removing the word "consecutively" from the definition. This removes the potential misapplication of the definition to only blocks of cars that have remained consecutively coupled together since being removed from their previous train. FRA intends to make clear that any block of cars which is coupled together and added as a single unit to a train should be considered a "solid block of cars." The inspection requirements that attach to that solid block of cars will depend on the composition of the solid block of cars. To further clarify the attendant inspection requirements, FRA is also modifying the inspection requirements contained in subpart C of the final rule to directly address the inspection of a solid block of cars when added to a train. These modifications are being

made to clarify FRA's intent to impose inspection requirements on the specific solid block of cars when added to a train based on the solid block of cars' make-up rather than imposing inspection requirements on the entire train. See 66 FR 4148, 4168. It should be noted that FRA intends for only a single solid block of cars to be added at any one location without imposing an inspection requirement on the entire train. See 66 FR 4168. The modifications being made to subpart C of the final rule are discussed in detail in the section-by-section analysis of those provisions contained below.

In its petition, BLE contends that FRA uses the term "secondary brake system" in the final rule text, § 232.15(d), but provides no definition of the term in this section. FRA notes that § 232.5 does contain a definition of "secondary brake." See 66 FR 4194. Although FRA did not include a discussion of the definition in the preamble to either the NPRM or the final rule, the definition is identical to the definition of the same term used in the Passenger Equipment Safety Standards contained in part 238. See 49 CFR 238.5, 64 FR 25661 (May 12, 1999). FRA believes that the preamble discussion of the term in the final rule to part 238 is equally applicable to this final rule. See 64 FR 25577.

BLE's petition also seeks clarification of the final rule's definition of "rebuilt equipment," and suggests that FRA publish the threshold amount for determining what constitutes a capital expense each time it changes and identify the basis used to determine the figure. FRA's definition of "rebuilt equipment" incorporates the Surface Transportation Board's (STB) accounting standards, contained in 49 CFR part 1201, subpart A, Instruction 2-12, in determining the capital expense threshold. See 66 FR 4195. The STB accounting standards are adapted from generally accepted accounting principles. Under the STB accounting standards a capital expense is determined by the railroad according to generally accepted accounting principles. Two provisions govern the railroad's determinations. First, if the expense incurred substantially extends the useful life of the equipment beyond the estimated service life, the equipment is classified as rebuilt. Secondly, if the expense substantially increases the utility of the equipment by making the equipment more useful, efficient, durable, or have greater capacity, the equipment is classified as rebuilt. Thus, the determination of what constitutes a capital expense is an accounting function performed by the railroad based on the above guiding principles.

Therefore, there is no fixed threshold amount or standard that can be quantified or published by FRA as the determination is made on a case-by-case basis. Consequently, FRA denies BLE's request to quantify and publish a threshold figure for determining what constitutes a capital expense.

Section 232.15 Movement of Defective Equipment

Paragraph (b)(1) of this section is being amended in response to AAR's petition for reconsideration regarding the tagging of defective locomotives under this part. AAR contends that it is unnecessary to tag the outside of a locomotive found to be defective pursuant to the provisions of the final rule. AAR asserts that placing the defect tag in the cab of the locomotive is sufficient and would be consistent with the tagging requirements contained in part 229. AAR maintains that this method of tagging defective locomotives has proven effective and that there is no safety rationale for departing from this longstanding practice.

FRA agrees with the position of AAR. When including the tagging requirements related to the movement of defective equipment, FRA intended the requirements to be similar to those contained in part 215 related the movement of equipment not in compliance with the Freight Car Safety Standards and to be generally consistent with how most railroads currently handle equipment found with defective brakes. See 66 FR 4151. As the requirements contained in Part 215 do not address locomotives and because most railroad place defect tags in the cab of a locomotive rather than the outside of the locomotives, it is consistent with FRA's original intent to permit defect tags on locomotives to be displayed in the cab of a locomotive. FRA agrees that the placing of such tags has worked well for a number of years in the context of tagging defective locomotives under part 229. Consequently, FRA is amending paragraph (b)(1) of this section to clarify that the required defect tags may be displayed in the cab of a locomotive rather than on opposing sides as required by a strict reading of the final rule.

In its petition, the AAR also objects to the requirement contained in paragraph (b)(5) of this section that FRA approve any automated tracking system designed to be used in lieu of physically tagging defective equipment. See 66 FR 4197. AAR contends that the requirement for FRA's approval of any automated tracking systems is inconsistent with both the Government Paperwork

Elimination Act (GPEA) and the guidance issued by the Office of Management and Budget (OMB) regarding the implementation of GPEA. See Public Law 105-277 (October 21, 1998) and OMB Memorandum M-00-10 (April 25, 2000). AAR claims that paragraph (b)(5) should be eliminated as it demonstrates that FRA is disfavoring electronic recordkeeping by requiring a special approval procedure for electronic recordkeeping when none is required for paper records.

FRA strongly disagrees with AAR's interpretation of GPEA and the OMB guidance related to the implementation of GPEA. Section 232.15(b)(1) and (b)(5) of the final rule requires that any automated tracking system used in lieu of directly tagging equipment be approved by FRA and that such a system must be capable of being reviewed by and monitored by FRA at any time to ensure the integrity of the system. See 66 FR 4197. The preamble to the final rule makes clear that FRA's approval is necessary because an adequate automated system for tracking defective equipment does not currently exist on most railroads and FRA does not believe it is prudent, from a safety perspective, to allow implementation of a tracking system which FRA would not have a prior opportunity to assess and thereby ensure the system's accessibility, security, and accuracy. See 66 FR 4151. FRA does not disfavor or discriminate against electronic records; in fact, FRA has strongly encouraged the use of electronic recordkeeping for years. The final rule provides railroads the option of using either tags or an automated system to maintain and track the necessary information regarding the movement of defective equipment. If railroads decide to use tags, then there is no need for an automated recordkeeping system and, therefore, no need to obtain FRA approval of an automated system. If railroads elect to use some type of automated tracking system, then FRA approval of the system is required. FRA sets standards for information provided to the agency, whether on paper or electronically. In all of its information collections, FRA spells out the particular information railroads must provide and maintain (either on paper or electronically).

Contrary to the assertions expressed in AAR's petition, the requirement for FRA approval of an automated tracking system does not violate either GPEA or the related OMB guidance. OMB's guidance related to the implementation of GPEA readily acknowledges the need for standards and procedures concerning the use of electronic recordkeeping. Part I, Section 1 of that

guidance describes the policies agencies should follow when implementing GPEA. See OMB Memorandum M-00-10 (April 25, 2000). This portion of OMB's guidance states:

Sections 1703 and 1705 of GPEA charge the Office of Management and Budget (OMB) with developing procedures for Executive agencies to follow in using and accepting electronic documents and signatures, including records required to be maintained under Federal programs and information that employers are required to store and file with Federal agencies about their employees.

FRA must conform to OMB's guidance and implicitly so too must railroads. FRA must also conform to Department of Justice guidelines regarding legal sufficiency of electronic documents and electronic signatures and, again, implicitly so too must railroads. Moreover, OMB's guidance clearly envisions agency approval of automated or electronic recordkeeping systems. Part I, Section 2 of OMB's guidance states:

GPEA recognizes that building and deploying electronic systems to complement and replace paper-based systems should be consistent with the need to ensure that investments in information technology are economically prudent to accomplish the agency's mission, protect privacy, and ensure the security of the data * * * Accordingly, agencies should develop and implement plans, supported by an assessment of whether to use and accept documents in electronic form and to engage in electronic transactions.

Part II, Section 1 of OMB's guidance adds the following:

The guidance builds on the requirements and scope of the Paperwork Reduction Act of 1995 (PRA). According to the PRA, agencies must, "consistent with the Computer Security Act of 1987 (CSA) (40 U.S.C. 759 note), identify and afford security protections commensurate with the risk and magnitude of the harm resulting from the loss, misuse, or unauthorized access to or modification of information collected by or on behalf of an agency." 44 U.S.C. 3506(g)(3) * * * As GPEA, PRA, CSA, and the Privacy Act recognize, the goal of information security is to protect the integrity, and confidentiality of electronic records * * *

Consequently, OMB's guidance clearly intends for agencies to consider the security, accessibility, and accuracy of any electronic or automated recordkeeping system prior to permitting such a system to be used in lieu of traditional paperwork. The preamble to the final rule makes clear that the intent of FRA's review and approval of any implemented automated tracking system is to ensure the system's accessibility, reliability, security, and accuracy. See 66 FR 4151. This type of review and approval was clearly

contemplated by both the GPEA and OMB's implementing guidance. FRA approval of the automated tracking system serves to protect both the agency's interests and the interests of the railroad industry by ensuring that the automated tracking system will safely and properly perform all the functions of a traditional paper-based tagging system.

FRA stresses that it is neither suspicious of nor hostile to the use of electronic recordkeeping by railroads, and attributes no bad motives to railroads when requiring prior agency approval of an automated tracking system related to the movement and handling of defective equipment. It should also be noted that FRA envisioned the same type of automated tracking system that AAR alludes to in its petition for reconsideration, namely a combination of an industry-wide tracking program and individual railroad programs. Since AAR states there are no current plans for such a system, FRA may have been a bit premature in discussing such a system in the preamble to the final rule. However, FRA continues to believe its concerns regarding the use of an automated tracking system are reasonable, are consistent with the GPEA and OMB implementation guidance, and will need to be addressed whenever railroads seek agency approval of automated tracking or electronic recordkeeping systems.

Paragraph (g) of this section is being amended in response to AAR's petition asserting that there is no rational basis for FRA to require that a railroad and its employee representatives must submit a joint proposal listing the locations where brake system repairs will be conducted in order for FRA to consider any such proposal. Paragraph (g) was intended to provide railroads with a method by which they could designate locations where various brake system repairs will be conducted. The final rule requirement was written to make clear that FRA would not consider a proposal containing a plan which designates locations where brake system repairs will be conducted unless a railroad and the representatives of its employees submit the proposal jointly. See 66 FR 4153, 4197-98. AAR states that it does not object to FRA review and approval of any submitted listing but believes that it would be extremely difficult for a railroad and its employees to reach agreement on the locations that should be included on any such list. AAR also states that railroads would prefer to have a known listing of locations that will make brake system repairs in order

to avoid any confusion among the various parties.

FRA agrees with the recommendation made by AAR in its petition that FRA should not be foreclosed from considering a list of locations where brake system repairs will be effectuated simply because a railroad and its employees cannot agree on the content of such a listing. FRA agrees that a listing of locations where brake system repairs will be conducted would improve FRA's enforcement activities as well as ensuring that prompt and safe repairs are made to defective equipment. However, FRA continues to believe that a railroad's employees and other interested parties must be provided an opportunity to review and comment on any proposed listing of locations that will be considered capable of making brake system repairs prior to FRA's approval of such a listing. Therefore, FRA is amending paragraph (g) of this section to require that proposals regarding the designation of locations where brake system repairs will be performed must be submitted pursuant to the special approval procedures contained in § 232.17 of the final rule. This paragraph makes clear that such proposals would have to be consistent with the guidelines contained in paragraph (f) of this section and that such plans would have to be approved by FRA pursuant to the procedures contained in § 232.17 prior to being implemented. FRA believes that the special approval procedures contained in § 232.17 ensure that a railroad's employees and other interested parties are provided an opportunity to review and comment on any proposed listing prior to FRA determining whether or not to approve the proposal. FRA believes this approach is consistent with the intent of the final rule and ensures that FRA will be informed as to any objections that may be raised by a railroad's employees or their representatives on any submitted listing. It should be noted that conforming changes are being made to the special approval procedures contained in § 232.17 to include language addressing the submission of these types of proposals.

Section 232.17 Special Approval Procedure

As just discussed, the procedures contained in this section are being modified to incorporate language regarding the special approval of plans designating locations where brake system repairs will be conducted pursuant to § 232.15(g). The modifications being made are merely intended to clarify that the procedures

detailed in this section apply to the review and approval of listings submitted pursuant to § 232.15(g). Consequently, the provisions contained in paragraphs (a), (b), (d), and (g) of this section have been amended to include a reference to § 232.15(g).

In its petition, BLE recommends that the 30-day comment period provided for in paragraph (f) of the special approval procedures be extended to at least 45 days. Other than the recommendation, BLE provides no discussion or rationale for seeking an extension of the comment period. FRA continues to believe that it is not necessary to further lengthen the comment period provided in the final rule. FRA thinks that the procedures provide an adequate opportunity for interested parties to comment. Furthermore, if the procedures for these special approvals are made overly burdensome, then the speed intended to be gained through the process would be lost. Moreover, paragraph (b)(4) of the procedures requires that any party seeking a special approval must serve a copy of its petition on designated representatives of its employees at the time the party submits the petition to FRA. *See* 66 FR 4198. Thus, the representatives of a railroad's employees would be served a copy of any petition submitted pursuant to the special approval process well before the petition is actually published in the **Federal Register** under paragraph (e) of this section. Therefore, the representatives of the petitioning railroad's employees would likely have more than the provided 30 days to review any petition directly affecting employees they represent. In addition, it would serve the petitioning party's interest to ensure that all known interested parties are provided detailed information on any submitted process to ensure timely and complete consideration of any submitted petition. Consequently, based on the above discussion, FRA is denying BLE's request to extend the special-approval comment period to 45 days.

Subpart B—General Requirements

Section 232.103 General Requirements for All Train Brake Systems

Paragraph (n) of this section is being modified in response to concerns raised in both AAR's and BLE's petitions regarding the final rule requirements related to the securement of unattended equipment. AAR recommends that the provision contained in paragraph (n)(2) of this section, requiring the initiation of an emergency application of the air brakes prior to leaving equipment unattended, be deleted. AAR contends

that the requirement to initiate an emergency application of the brakes might result in train crews disregarding the requirement to ensure that a sufficient number of hand brakes are set to hold the equipment. AAR also asserts that if an emergency application is required, then equipment will have to be retested if off air for more than four hours.

While FRA does not fully agree with the concerns raised by AAR in its petition, FRA is amending paragraph (n)(2) to clarify the application of the requirement and to lessen the burdens imposed by requiring the initiation of an emergency brake application. The intent of the final rule provision was to address the dangerous practice known as "bottling the air" in a standing cut of cars, an issue related to improperly secured rail equipment. *See* 66 FR 4156–57. The practice of "bottling the air" occurs when a train crew sets out cars from a train with the air brakes applied and the angle cocks on both ends of the train closed, thus trapping the existing compressed air and conserving the brake pipe pressure in the cut of cars the crew intends to leave behind. The preamble to the final rule provides a detailed discussion of the hazards associated with this practice which has the potential of causing, first, an unintentional release of the brakes on these cars and, ultimately, a runaway. *See* 66 FR 4156–57. This issue was the focus of a National Transportation Safety Board (NTSB) recommendation issued in 1998 and discussed in detail in the preamble to the final rule. *See* NTSB Recommendation R–98–17, 66 FR 4157. Although FRA continues to believe this practice needs to be addressed, FRA believes that the final rule requirement to conduct an emergency application of the brakes when leaving equipment unattended is overly stringent and would likely result in unintended delays when recharging equipment. FRA also realizes that the application of the final rule requirement needs to be clarified to avoid any misinterpretation of the requirement and to remain consistent with the existing and long-standing operating procedures of many railroads when leaving equipment unattended.

FRA is modifying paragraph (n)(2) to require that the brake pipe on equipment being left unattended be depleted to zero at a rate that is no less than a service rate reduction. This approach is more consistent with the current operating rules of many railroads. Furthermore, permitting the brake pipe to be depleted at a service rate reduction serves all the purposes of making an emergency application of the

brakes (i.e., prevents the bottling of air in the brake system) but does not result in the emergency reservoir being depleted of air. This change will reduce the amount of time necessary to recharge the brake system on equipment left unattended and, thus, prevent any unnecessary train delay. It should be noted that this modification does not prohibit a railroad from requiring the initiation of an emergency brake application on equipment that is left unattended, but merely provides the option of depleting the brake pipe to zero by a different means.

FRA is also modifying paragraph (n)(2) to clarify that the requirement only applies to freight and other non-powered cars when detached from a source of compressed air. FRA realizes that the language of the final rule could be interpreted to apply to any equipment left unattended. FRA's intent was to end the practice of "bottling of air" on freight equipment that was disconnected from a source of compressed air. *See* 63 FR 48331–32, 66 FR 4156–57. FRA did not intend to stop the long-standing industry practice of leaving equipment connected to a source of compressed air either while en route or after the testing of equipment. Furthermore, this approach is consistent with NTSB's recommendation, which suggested that the brake pipe be depleted to zero on standing equipment that is detached from a locomotive. *See* NTSB Recommendation R–98–17, 66 FR 4157. The requirement to set a sufficient number of hand brakes to hold unattended equipment contained in paragraph (n)(1) of this section is intended to address the securement of equipment left connected to a source of compressed air.

It should be noted that AAR's concern regarding the need to retest unattended equipment that is left off-air for more than four hours is somewhat misplaced in the context of the clarified requirements contained in this section. Pursuant to the final rule's definition of "off-air," any equipment not connected to a continuous source of compressed air of at least 60 pounds per square inch (psi) is considered "off-air." *See* 66 FR 4194. Consequently, any time a source of compressed air of at least 60 psi is removed from a block of cars, that block of cars is considered to be "off-air" regardless of whether air has been bottled in the system and, thus, the type of brake application made when the cars are left unattended is irrelevant.

Paragraph (n)(3) of the final rule is also being amended in response to a concern raised by the AAR in its petition requesting clarification of FRA's intent to apply the requirements

contained in this paragraph regarding the securement of unattended locomotives and locomotive consists to distributed power locomotive units. AAR contends that the language of the provision is confusing and could be read to apply to distributed power units in a train. The preamble to the final rule makes clear that it was not FRA's intent to apply the securement requirements related to locomotives to distributed power locomotives. See 66 FR 4157. Consequently, FRA is modifying the introductory language of paragraph (n)(3) to specifically clarify that the provisions contained in this paragraph do not apply to distributed power locomotives.

Paragraph (n)(3) of this section is also being amended in response to concerns raised in BLE's petition regarding the securement of locomotives not equipped with a hand brake. BLE notes that although the final rule contains specific requirements for setting hand brakes on unattended locomotives, the final rule is silent on securing locomotives not so equipped. Although FRA believes that virtually all railroads have procedures in place for securing locomotives that are not equipped with hand brakes, FRA agrees that the final rule does not specifically address the securement of such locomotives. However, FRA believes that the requirements of paragraph (n) implicitly require a railroad to adopt procedures for securing locomotives that are not equipped with hand brakes. Paragraph (n)(4) of the final rule requires that procedures be adopted and complied with to verify that the handbrakes sufficiently hold an unattended locomotive consist. Thus, the requirement implicitly requires that procedures be in place to address situations where the hand brakes are not sufficient to hold the locomotives, such as when the locomotives are not equipped with a hand brake. See 66 FR 4199. Therefore, in order to clarify this intent, FRA is adding a paragraph (n)(3)(iv) which specifically requires railroads to adopt and comply with procedures for securing unattended locomotives not equipped with hand brakes. As noted above, FRA believes this modification is merely a further clarification of the requirement contained in paragraph (n)(4) of this section and does not impose any additional burden on the industry.

Paragraph (o) of this section of the final rule is being amended in response to a concern raised in NYAB's petition regarding the required air pressure for the self-lapping portion for the independent air brake on freight locomotives. NYAB contends that all of

the locomotive brake systems it supplies to Class I railroads have the self-lapping portion for the independent brake preset to 45 psi, and NYAB recommends that a pressure of 30 to 50 psi for this valve should be the required setting. NYAB notes that this was the pressure previously provided for in part 232 prior to the issuance of the final rule. FRA does not dispute NYAB's contention, the pressure range for this valve was changed in the final rule based on comments received by the AAR in response to the NPRM. See 66 FR 4158. A review of AAR's comments on the NPRM reveals that AAR provided no rationale for requesting the change to "30 psi or less," and FRA believes AAR may have erred in its recommendation. FRA's intent when issuing the pressure table in this paragraph was to capture the current regulating valve pressures utilized by the industry. Consequently, FRA is modifying the table of pressures contained in this paragraph to reflect NYAB's suggestion that the air pressure for the self-lapping portion of the independent brake on a locomotive be 30 to 50 psi, the pressure required by part 232 as it existed prior to May 31, 2001.

Paragraph (p) of this section is being removed in response to concerns raised by AAR in its petition and based upon FRA's determination that the paragraph is unnecessary and duplicative. Paragraph (p) of this section is basically a reiteration of the language contained in § 232.11(a) as it existed prior to May 31, 2001, which addressed the joint responsibility of supervisors and inspectors to ensure the proper condition and functioning of train brake systems. See 66 FR 4158. Although the provision has existed in part 232 for decades, there has never been a civil penalty directly associated with the provision, and FRA has never pursued a violation under the provision. In FRA's view, the provision merely served to inform supervisors that they were jointly responsible for ensuring the proper condition of the brake system. With the advent of individual liability in 1992, FRA believes that the provision provides notice to supervisors that they may be held individually liable, from a civil penalty perspective, for permitting or requiring improper inspection practices or other practices not consistent with the regulatory and statutory requirements to be engaged in by employees they supervise. See the Rail Safety Enforcement and Review Act, Public Law 102-365 (Sept. 3, 1992). As the potential for individual liability is specifically identified and discussed in § 232.11 of the final rule and the

associated preamble analysis, FRA believes that there is no need to include paragraph (p) in this section. See 66 FR 4149-50, 4196.

FRA is denying AAR's request for reconsideration of the final rule's provision contained in paragraph (g) of this section requiring cars equipped with other than 12-inch stroke brake cylinders to display the permissible brake cylinder piston travel range on the car in the form of either a decal, sticker, stencil, or on the car's badge plate. The final rule requires that such cars be so marked by April 1, 2004. See 66 FR 4199. AAR recommends that FRA extend the date by which to comply with this requirement to five years. AAR contends that a five-year compliance date would permit the required stencil, sticker, or decal to be applied during a car's scheduled periodic single car test and, thus, reduce the economic impact of the requirement. AAR contends that an April 1, 2004, compliance date would cost the industry approximately \$6 million more than estimated by FRA in the Regulatory Impact Analysis of the final rule.

The merits of AAR's contentions regarding the economic impact of this requirement were previously discussed in detail in the portion of the preamble addressing AAR's economic concerns related to the final rule. In that discussion, FRA states that the time permitted in the final rule is sufficient for the railroads to comply with the requirement and does not impose the economic burdens claimed by AAR in its petition. On average, rail cars are placed on a fixed repair track or a sidetrack where repairs are conducted approximately once every one-and-one-half years. The task of applying a sticker, decal, or stencil takes only few minutes to accomplish, and FRA has allowed numerous ways for railroads to comply with the requirement. As a matter of fundamental sound economics, good business practice, and effective utilization of employee time and company resources, FRA assumes the railroads will use the most cost-effective option (i.e., applying stickers or decals to the rail cars while performing other functions rather than taking it out-of-service unnecessarily) when placing piston travel information on rail cars. The most reasonable approach in complying with the requirement is to apply the sticker, stencil, or decal when an inspection or repair is being conducted on the rail car. Furthermore, FRA continues to believe that the information provided by these decals, stickers, or stencils is necessary to ensure that proper inspections are conducted and that the information

should be available at the time that the final rule inspection requirements become applicable. *See* 66 FR 4155. Moreover, as the final rule indicated, a large number of cars are already properly marked with the necessary information. *See* 66 FR 4155. Consequently, FRA continues to believe that the final rule provides more than a sufficient amount of time to comply with this requirement without imposing the economic hardships alleged by AAR in its petition.

Section 232.107 Air Source Requirements and Cold Weather Operations

No changes are being made to the final rule requirements contained in this section. FRA is denying the recommendation to require air dryers on new locomotives raised by BLE in its petition. BLE again reasserts its belief that air dryers should be required on all new locomotives in order to remove moisture introduced into the train line by yard air systems. BLE believes that the cost of requiring air dryers on new locomotives would be minimal when compared to the problems associated with frozen train lines.

The preamble to the final rule provides a detailed discussion regarding the use of air dryers on both locomotive and yard air sources. *See* 66 FR 4137–38. The preamble to the final rule also notes that based on information gathered throughout the RSAC process, previous comments by industry parties, agency experience, and after detailed instrumented testing, FRA determined that locomotives rarely contribute to moisture in the train line. Consequently, FRA did not require that air dryers be installed on new locomotives in either the NPRM or the final rule. The preamble to the NPRM contains a detailed discussion of the testing conducted by the RSAC Working Group members and recommendations regarding air dryers. *See* 63 FR 48317–19. FRA continues to believe that simply requiring air dryers on locomotives or yard air sources does not solve the problem of introducing moisture into train lines and that such devices do not provide a suitable or cost effective solution to the problem in freight service.

FRA is also denying BLE's recommendation that FRA publish a list of chemicals that could be used in train lines consistent with the prohibition contained in paragraph (c) of this section. Paragraph (c) prohibits the introduction of chemicals which are known to degrade or harm brake system components into a train air brake system. FRA's primary focus when

issuing the final rule was to eliminate the use of alcohol and other similar substances in train air brake systems as these substances are widely known to degrade brake system components. *See* 66 FR 4138, 4160–61. FRA does not possess either the personnel or financial resources to assess every chemical currently on the market to determine the detrimental effects it may have on brake system components. FRA believes its resources would be better spent monitoring the development and use of new products as they gain acceptance in the industry. Moreover, as one of the major purposes of the final rule is to encourage the development and use of new technologies, FRA believes that any attempt to develop a listing of approved chemicals without conducting complete and thorough analysis could potentially stifle innovation and research into safe and useful products.

Section 232.109 Dynamic Brake Requirements

Paragraph (a) of this section is being modified in response to concerns raised by AAR in its petition. AAR raised a concern regarding this paragraph's inclusion of the term "point of origin" as one of the locations where a locomotive engineer is to be informed of the operational status of the dynamic brakes on the locomotives in the train. AAR notes that the final rule contains no definition of the term "point of origin" and recommends that the language be removed. FRA agrees with the concern raised by AAR. The term "point of origin" was originally contained in the definitions included in the NPRM. *See* 63 FR 48356. However, when issuing the final rule FRA said it intended to remove the term from the rule wherever it appeared because the proposed definition of the term was duplicative of the term "initial terminal" and merely created potential misunderstandings. *See* 66 FR 4167. FRA also noted that the problems intended to be addressed by the use of the term "point of origin" were sufficiently addressed by the various inspections required in this final rule when cars are added to a train. *See* 66 FR 4167. Therefore, FRA clearly intended to remove this term from the final rule, but inadvertently failed to remove it from this paragraph. Consequently, FRA is modifying this paragraph by removing the term "point of origin."

AAR also raises concerns related to the information required by this paragraph to be provided to the locomotive engineer regarding the operational status of the dynamic brakes on the locomotives in the train. AAR

seeks clarification as to whether the provision requires some type of testing at each location where the locomotive engineer is to be provided such information. FRA did not intend for railroads to conduct specialized testing of the dynamic brakes in order to fulfill this requirement. FRA intended for the locomotive engineer to be informed of any known inoperative or deactivated dynamic brakes in the train consist at the time he or she first begins operation of the train. This information may be gleaned either from the previous crew's operating experience, railroad records, on-board monitors, or other testing of the dynamic brake system performed at the railroad's option. However, FRA stresses that the intent of the requirement was to ensure that an engineer is apprized of any known inoperative dynamic brakes prior to beginning operation of a train. FRA continues to believe that by providing an engineer with as much information as possible on the status of the dynamic brakes on a train, a railroad better enables that engineer to operate the train in the safest and most efficient manner.

Paragraphs (g) and (h) of this section, which contain requirements for dynamic brake indicators and testing the electrical integrity of the dynamic brake system on new and rebuilt locomotives, are being modified in response to issues raised in AAR's petition for reconsideration. In its petition, AAR contends that a device capable of displaying total train dynamic brake retarding force at various speed increments does not currently exist and cannot be developed by August 1, 2002, as required by the final rule. As part of its petition, AAR included letters from two locomotive manufacturers, both of which indicated that the dynamic brake indicator required by the final rule would be very difficult, if not impossible, to develop and implement within the time frame allotted by the final rule. Both manufacturers as well as AAR cite interoperability as the fundamental problem with developing the device. That is, industry-wide standards need to be developed to ensure that devices made by different manufacturers are able to communicate with each other. AAR also seeks clarification of the final rule's requirement regarding whether the device is to provide a theoretical retarding force or the actual retarding force being produced by the dynamic brakes at any given time.

AAR further recommends elimination of the requirement for a dynamic brake indicator and suggests that railroads should be permitted to use

accelerometers in lieu of the dynamic brake indicator. An "accelerometer" or "predictor" is a device currently used in the industry that indicates the predicted speed in miles per hour of the locomotive 60 seconds from the present, based on the computed acceleration or deceleration rate of the train. AAR contends that accelerometers are vastly superior to dynamic brake indicators as they provide information to the locomotive engineer on the performance of all the brakes in his train and how well they are performing together. AAR also maintains that accelerometers are proven, existing technology and that many locomotive in the nation's fleet are already equipped with such devices.

FRA does not dispute the potential safety benefits derived from the use of an accelerometer. FRA also agrees that an accelerometer does provide a locomotive engineer with some information regarding the operation of a train's brake system. However, FRA continues to believe that locomotive engineers should have direct information regarding the operation and effectiveness of the dynamic brakes on the train they are operating. While an accelerometer would provide some information on the effectiveness of the entire brake system, it would not give any specific information regarding the effectiveness of the dynamic brakes on any single locomotive unit in the train or the retarding force being applied by the dynamic brakes as a whole. FRA believes that such direct information is essential for ensuring that locomotive engineers are provided as much information as possible regarding the braking system that they are encouraged to use and on which they rely to control a train's speed generally and especially on heavy grades. Consequently, FRA does not believe that accelerometers or "predictors" are an adequate substitute for a dynamic brake indicator which provides direct information on the effectiveness of the dynamic brakes on the locomotives in a train. With this said, FRA would encourage railroads to utilize the technologies available in both the accelerometer and a dynamic brake indicator because a combination of the information provided by the two devices unquestionably provides a locomotive engineer with a wealth of knowledge regarding the operation and effectiveness of the brakes on the train he or she is operating.

Although FRA believes that a dynamic brake indicator is necessary and desirable, FRA recognizes the difficulties in developing and introducing a relatively new technology. FRA is also not unmindful of the needs of the industry to develop standards to

ensure that any developed device serves the purposes of the industry and addresses all interoperability concerns. Neither manufacturer indicated an inability to develop the device suggested by the final rule, just that the time frame contained in the final rule was insufficient for addressing outstanding design and interoperability issues. Moreover, FRA continues to believe that the technology exists for developing a device similar to that required by the final rule. Consequently, FRA will continue to require that new locomotives be equipped with a dynamic brake indicator similar to that described in the final rule, with slight modification to address other issues raised by AAR.

Based on the above, FRA is amending paragraph (g) to extend the time period by which new locomotives are to be equipped with the required dynamic brake indicator. FRA believes that an additional three years is more than adequate to permit the industry to develop appropriate design and interoperability standards and would allow for testing and verification of any hardware and associated software. Based on consultations with FRA's Office of Railroad Development, FRA believes that adding three years to the compliance date will provide the industry more than a sufficient amount of time to develop and test the device. Under the extension being provided by this response, the industry will be allotted approximately five years to develop and test the required device. FRA is providing this five-year window with the intention that three years would be needed by the industry to develop appropriate industry standards and to develop the necessary hardware and software. An additional two years is then allotted for the testing and verification of any developed technology. FRA also notes that the period of three additional years being provided by this modification extends the compliance date for the devices beyond the year 2005 which is the anticipated effective date of the Environmental Protection Agency's (EPA) new locomotive emissions requirements, which will likely result in a significant redesign of new locomotives. Thus, the dynamic brake indicators can be easily incorporated into any new design standards that result from EPA's regulatory activities, minimizing the cost of adding the instruments.

FRA notes that railroads will have at least two options for implementing the requirement for dynamic brake indicators in multiple-unit locomotive consists. The first option would be

"hard wire" transmission of data over "MU cables." In this case, the benefit of the rule would likely be realized only with respect to the lead unit, if equipped, and units consecutively coupled to it. The second option would be use of telemetry (data radio), in which case data from any number of equipped units could be provided to the engineer in an equipped lead unit, even if a non-equipped unit was placed in the middle of the locomotive consist. The same telemetry link used to control distributed power units (placed in the middle or rear of a train) could be employed to provide dynamic braking status information to an equipped lead locomotive, as well. FRA does not prescribe how this system is to be implemented, but does note that the benefits of the rule will be realized more quickly if telemetry is employed. However, given the prevalence of shared power arrangements in the railroad industry, it will be imperative that the Association of American Railroads, in consultation with its North American partners, provide interoperability standards for use by the locomotive manufacturers and supply community. The time provided for implementation under this rule is intended to facilitate the development and implementation of those standards.

Paragraphs (g) and (h) are also being modified to clarify the information that is to be provided by the required dynamic brake indicator. In order to ensure the timely development of the required devices and to address potential safety hazards, FRA is modifying the design requirements to make clear that the device is required to provide only a real-time display of the actual total train dynamic brake retarding force. FRA agrees with the concerns raised by AAR in its petition that the final rule language, requiring that the new locomotives be designed to display the total train dynamic brake retarding force at various speed increments, and the attendant preamble discussion are somewhat ambiguous as to what information is to be displayed in the cab of the controlling locomotive. See 66 FR 4163, 4200-01. Therefore, FRA is clarifying the language in these paragraphs to avoid any potential misunderstanding regarding the predictive nature of the dynamic brake indicator. FRA agrees that the technology may not be available to accurately provide a predictive assessment of the total train dynamic brake retarding force and, more important, the usefulness of such information is likely outweighed by the potential safety hazards. FRA believes

that requiring predictive information on the status of dynamic brake retarding force might result in a locomotive engineer mishandling a train due to over-reliance on the predictive information being provided because dynamic brakes can fail at any time and thus, the predictive information may be not be an accurate representation of the dynamic brake performance at that future time.

Paragraphs (g) and (h) are also being modified to clarify FRA's intent with regard to testing the electrical integrity of the dynamic brake at rest. In its petition, AAR recommended elimination of the electrical integrity test as it was unclear what FRA was expecting to be tested while a locomotive was at rest. AAR indicated that there is a series of three tests that could be performed to test the electrical integrity of the dynamic brake system all of which would require specialized personnel and equipment to perform. AAR further contends that none of the at-rest tests could predict with any certainty whether the dynamic brakes would actually function when engaged. In order to clarify the intent of the final rule's requirement, FRA is amending the language in these paragraphs to specifically describe that the electrical continuity test is to determine that electrical current is being received at the grids on the dynamic brake system. FRA believes this would involve a fairly simple check of the electrical continuity and would not require specialized training. Furthermore, FRA believes that the technology for conducting this test either already exists or can be easily developed and implemented over the next five years. Although FRA agrees that this electrical test will not predict with any certainty the functioning of the dynamic brakes when engaged, FRA believes it does provide some information to the engineer regarding the potential for the dynamic brake to function prior to the locomotive engineer's actual operation of the train. Furthermore, this requirement is consistent with the final rule's intent that by providing an engineer with as much information as possible on the status of the dynamic brakes on a train, a railroad better enables that engineer to operate the train in the safest and most efficient manner. See 66 FR 4161.

Paragraph (j)(2) of this section is also being modified in response to AAR's petition seeking clarification of the applicability of the requirement contained in this paragraph. Paragraph (j)(2) requires that the operating rules developed by railroads under this section include a "miles-per-hour-overspeed-stop" requirement that

requires trains to be immediately stopped if they exceed the maximum authorized speed by more than 5 mph when descending grades of one percent or greater. See 66 FR 4201. The preamble to the final rule made clear that this requirement was developed in response to an NTSB recommendation and because FRA believed the provision accomplished a critical safety function by reducing the potential for runaways. It does so by establishing a clear rule for stopping a train when descending a grade and removes any discretion from the operator to continue operation of a train. See 66 FR 4164. AAR recommends that the requirement only be applied to trains descending grades averaging two percent for two continuous miles, similar to the two-way EOT requirement's definition of heavy grade. AAR contends that the one percent grade threshold is too low and that most railroads do not consider grades of less than two percent to be heavy grades.

Contrary to the implications made by AAR, the requirement in this paragraph was not intended to apply only to trains descending "heavy grades" as defined by most railroads. The requirement was intended to apply to any train descending a grade with a potential for causing a runaway condition. See 66 FR 4164. Furthermore, most Class I railroads that have already incorporated a "miles-per-hour-overspeed-stop" provision in their operating rules apply the requirement to trains descending grades of much less than two percent. However, FRA does agree that a mileage parameter needs to accompany the grade threshold in order for railroads to determine which segments of track are to be governed by the required operating procedure. As the regulations related to two-way EOT devices have identified those types of grades that FRA believes have the greatest potential for being involved in a runaway condition, FRA believes that the distance parameter contained in those requirements would be equally applicable in this context. Therefore, paragraph (j)(2) is being modified to clarify that railroads, at a minimum, apply the "overspeed-stop rule" contained in this paragraph to any train operating over a segment of track with an average grade of one percent or greater for three continuous miles. Furthermore, as railroads should have already identified the existence of such locations on their railroad for purposes of complying with the two-way EOT device regulations, this requirement should pose little or no burden on the industry. Moreover, the final rule permits railroads to increase the five-

mph-overspeed limitation with FRA approval. Thus, if railroads are able to produce validated research to show a higher speed threshold on grades less than two percent is appropriate, then FRA would be willing to consider the information. However, AAR's petition for reconsideration alludes to no such validated research. Consequently, FRA denies AAR's request to increase the applicable grade limitation contained in this paragraph of the final rule to cover only two percent grades.

BLE's petition sought reconsideration of two provisions contained in this section. BLE recommends that FRA extend the final rule's time period for retaining records of dynamic brake repairs from the 92 days required in paragraph (d) of this section to one year. BLE suggests that this would allow FRA to determine whether a particular locomotive or locomotive series is having reoccurring problems related to dynamic brakes. While FRA believes the stated purpose to be valid, FRA does not agree that a one-year repair record retention period is the necessary. FRA believes that the 92-day retention period required by the final rule provides FRA sufficient time to obtain relevant repair information to address any reoccurring problems. Moreover, the 92-day repair record retention period contained in this paragraph is consistent with other repair and inspection record retention periods contained in both the final rule and other federal railroad safety regulations. See 66 FR 4197, 4207; 49 CFR 215.9(b)(2) and 229.21(a). Consequently, FRA is denying BLE's request to extend the repair record retention contained in this paragraph.

BLE also seeks FRA's reconsideration of its determination to permit a locomotive with inoperative or deactivated dynamic brakes to be used as a controlling locomotive in heavy grade territory. BLE provides little, if any, rationale for requesting this prohibition other than citing general concerns with controlling a train on a heavy grade, all of which exist whether or not the controlling locomotive has operative dynamic brakes. The final rule requires that locomotives with inoperative or deactivated dynamic brakes have the capability of controlling the dynamic brakes on trailing units when operating as the controlling locomotive. The final rule also requires such locomotives to have the capability of displaying to the locomotive engineer the deceleration rate of the train or the total train dynamic brake retarding force. FRA continues to believe these provisions will ensure that locomotive engineers are able to operate the available dynamic brakes on the train

and will have the best information it is currently feasible to provide as to the operation of the dynamic brakes on the locomotives in the train consist they are controlling. Consequently, FRA is denying BLE's request to modify the final rule requirements related to using locomotives with inoperative or deactivated dynamic brakes as a controlling locomotive.

Section 232.111 Train Handling Information

FRA is not making any changes to the final rule requirements contained in this section. In its petition, BLE recommends that FRA reconsider its decision to eliminate the requirement that railroads provide locomotive engineers with a record of all train configuration changes since the performance of the last Class I brake test. BLE contends that engineers and other crewmembers should have a list of all car placements in their train at all locations. BLE did not say why this information is critical and did not discuss how it would aid an engineer in the operation of a train. The principle purpose of this section is to ensure that locomotive engineers are provided with relevant information regarding the testing and operation of the brake system on any train they are required to operate. Although FRA agrees that information regarding train make-up and train configuration changes is useful to an engineer when operating a train, FRA believes that issues related to train make-up and train configuration are outside the scope of this proceeding and are addressed by existing railroad operating rules and other federal regulations. For example, the federal regulations regarding the transportation of hazardous materials require that train crews be in possession of a document that reflects the current position in the train of each rail car containing a hazardous material. See 49 CFR 174.26(a). Generally, this document will provide information regarding train consist changes made while a train is en route. Consequently, FRA is denying BLE's request to reinstate the NPRM requirement regarding train configuration changes made since the last Class I brake test was performed on the train.

Subpart C—Inspection and Testing Requirements

Section 232.203 Training Requirements

This section of the final rule contains the general training requirements for railroad employees and contractor employees who perform the inspections and tests required by the final rule. In

order to clarify FRA's intent, a brief discussion of FRA's overall approach to the final rule's training requirements may be beneficial. When including the training requirements in the final rule, FRA believed the training provisions to be the key factor for ensuring high quality brake inspections from which railroads would reap a number of operational benefits. See 66 FR 4135–37. The intent of the final rule is to establish a two-stage approach to training. The first phase of the training is to be the initial training of existing and new employees required to perform any test or inspection covered by the final rule. The majority of the initial training is to be conducted by railroads and contractors from the time the final rule became effective until April 1, 2004. FRA specifically deferred the applicability of many of the inspection and testing requirements until April 1, 2004, to permit railroads and contractors to have that period to develop the necessary curriculum and provide their employees with proper training on the performance of those tasks. See 66 FR 4137, 4144–45, 4193. The initial training is to include both classroom and “hands-on” training and testing tailored to the needs of each employee that addresses those tasks covered by the final rule which would be required to be performed by that individual. The initial training is also intended to cover the specific Federal regulatory requirements related to the tasks that the individual will be required to perform. FRA also envisioned that all new employees responsible for performing a task under this part would receive such initial training regardless of whether they were employed before or after April 1, 2004.

The second phase of the final rule's training requirements involves the conduct of periodic refresher training. FRA intends for this phase of training to occur after the initial training is complete. FRA did not intend for the periodic refresher training to take the place of the initial training. The final rule makes clear that FRA believes that periodic refresher training is essential to ensuring the continued ability of an employee to perform a particular task. In the preamble to the final rule, FRA acknowledged that it does not intend for such training to be as lengthy or as formal as the initial training originally provided, but believes that refresher training should reemphasize key elements of various tasks and focus on items or tasks that have been identified as being problematic or of poor quality by the railroad, contractor, or its employees through the periodic

assessment of the training program. See 66 FR 4166.

FRA utilized this same two-tiered approach to training when issuing the final rule on Passenger Equipment Safety Standards contained in part 238. See 49 CFR 238.109, 64 FR 25540, 65 FR 41284. Most passenger operations have completed or are in the final stages of completing the training required under those regulations, and FRA envisions freight railroads adopting a similar approach to training under this final rule. FRA recognizes that there are significant differences between passenger and freight operations and believes that each needs to be handled separately with regard to the training of individuals performing tasks required by the Federal regulations. Consequently, FRA is slightly modifying the training requirements contained in the final rule to address those concerns unique to freight operations.

Paragraph (b)(6) of this section is being modified in response to concerns raised in AAR's petition regarding the training of existing employees. AAR contends that the final rule's prohibition on the use of previous training and work experience to meet the training requirements is overly burdensome. AAR contends that many railroads do not have past training information on each employee performing tasks required by the final rule because railroads were never previously required to maintain such information. AAR asserts that it makes no sense to treat an existing railroad employee as a new hire with no railroad experience. AAR also maintains that FRA permitted the grandfathering of existing train and engine crews when promulgating the engineer certification requirements without requiring documentation of previous training. AAR sees no reason to take a different approach in this rulemaking.

FRA agrees that there are a number of employees currently working for many railroads and contractors that have received previous training or have extensive railroad experience to obviate the need to retrain the employee as thoroughly or as quickly as a newly hired individual. FRA also agrees that many railroads have not maintained records sufficient to meet the documentation requirements contained in the final rule for purposes of using the previous training to meet the new training requirements. However, FRA does not agree that when issuing part 240 related to locomotive engineer certification that it simply grandfathered all existing locomotive engineers. In fact, part 240 required that an initial determination of certification be made

by a railroad regarding any existing engineer and then required that any such certified engineer be qualified under the procedures set forth in the regulation within 36 months of being initially certified. See 49 CFR 240.201(b) and (c). Thus, part 240 did not provide for the unrestricted grandfathering of existing employees, as portrayed in AAR's petition, but permitted delayed qualification of existing employees. This is similar to the approach taken in the final rule whereby railroads and contractors are being given approximately three years from the issuance of the final rule to complete the initial training of their existing employees.

Based on the foregoing, FRA is modifying paragraph (b)(6) of this section to expand the methods by which railroads and contractors are allowed to meet the training requirements contained in this section with regard to existing employees. This paragraph is being modified to permit existing training records which meet the documentation requirements contained in paragraph (e)(1) through (e)(4) to be considered in determining an existing employee's level of training. This clarifies the final rule requirement regarding the level of documentation that must exist with regard to previous training. This clarification explains that the records of previous training must include the employee's name, the dates on which the training was provided, the content of each training course, and the scores on any tests taken to demonstrate proficiency. The final rule merely stated that the records of previous training meet all the documentation requirements in paragraph (e). FRA realizes that it is impossible and unnecessary to meet all the documentation requirements contained in paragraph (e) of this section when dealing with existing training records.

Paragraph (b)(6) is also being modified by adding two other additional methods by which existing employees may be deemed to have met a portion of the training requirements contained in this section. The first method is to treat as trained existing employees who successfully pass a test developed by the railroad or contractor which assesses an employee's skills and knowledge necessary to perform tasks required by this part that the employee will be responsible for performing. FRA believes that this will permit railroads and contractors to streamline an employee's initial training to cover only those areas in which an employee may show a deficiency. FRA believes this method will allow railroads and contractors to reduce their training

burdens by the permitting employees with extensive inspection and testing experience to "test-out" of large portions of the initial training keyed more toward newly hired individuals. The modified rule text makes clear that the test may be given in any format but must be documented as required in paragraph (e) of this section.

The second method permits a railroad or contractor to certify that a group or segment of its employees has received training determined by the railroad or contractor to meet the requirements contained in this section but for which complete records are unavailable. This new provision is being added to address the AAR's concern that many railroads have lost or destroyed previous training records or that all the information required by paragraphs (e)(1) through (e)(4) of this section was not maintained at the time the training was provided. If a railroad or contractor chooses this method, the railroad must maintain a copy of the certification in each such employee's training records, and the certification must contain a brief description of and approximate dates when the previous training was provided. Moreover, any employee certified to be trained under this method must be given a diagnostic test which covers the areas of training certified by the railroad or contractor to have been previously provided at the time the employee receives his or her first periodic refresher training. This will ensure that the employee has retained the necessary skills and knowledge that the railroad or contractor certifies was previously provided to the employee and also permits railroads and contractors to tailor an employee's refresher training to concentrate on those areas where the employee has demonstrated the most need for attention.

Paragraph (b)(8) of this section is also being modified to clarify FRA's intent regarding when refresher training is to be provided and to address AAR's concern regarding the ability to provide refresher training on a triennial cycle. As discussed in detail above, FRA's intent when requiring refresher training was that such training would not be engaged in until the completion of the initial training phase on April 1, 2004. A strict reading of the final rule would require that employees receive refresher training within three years of their initial training. FRA recognizes that, due to the need for railroads to develop the initial training materials, the actual initial training of the employees would be compressed to a period that is less than three years. Thus, although not FRA's intent, the language contained in

the final rule would require large portions of a railroad's workforce to undergo refresher training in the same year due to condensing the initial training period to less than three years. FRA's intent when issuing the final rule was to allow railroads and contractors to establish a refresher training program that would accommodate approximately one-third of a railroad's or contractor's brake system inspection and testing workforce each year. In order to effectuate this intent, FRA is amending this paragraph of the final rule to allow individuals receiving initial training prior to April 1, 2004, pursuant to this section, not to undergo refresher training until four years after the completion of their original initial training. The amended language makes clear that thereafter such individuals would be required to undergo refresher training at an interval not to exceed three years. This modification will permit railroads and contractors to schedule the first refresher training period for existing employees so that one-third of the affected employees can receive appropriate refresher training each year. This will provide railroads and contractors with more certainty both in terms of employee utilization and resource allocation affected by the refresher training requirements contained in the final rule.

In its petition AAR also requested elimination of several of the final rule's training documentation requirements contained in paragraph (e) of this section. After reviewing these requirements, FRA believes that virtually every record required by paragraph (e) is necessary and easy to maintain and provides important information to both FRA and the railroad or contractor. The only final rule item FRA believes is potentially unnecessary is the provision contained in paragraph (e)(6) of this section which requires a record that the employee was notified of his or her current qualification status. FRA agrees with the concerns raised by AAR on this issue that the information is of little or no value to FRA from an enforcement perspective and railroads will notify employees of their status regardless of any federal regulation. Consequently, FRA is modifying the final rule by removing paragraph (e)(6) of this section and is redesignating paragraphs (e)(7) through (e)(9) of this section as paragraphs (e)(6) through (e)(8), respectively. AAR raises various concerns with regard to a number of the final rule's other training documentation requirements in paragraph (e). FRA has addressed these

concerns in the preceding discussion of regulatory evaluation concerns and need not reiterate them here. (See Section I. Discussion of Regulatory Evaluation Concerns, Part A: Cost Issues, subpart 5: Training.)

Section 232.205 Class I Brake Test-Initial Terminal Inspection

In its petition, AAR seeks clarification of the final rule's inspection requirements related to the adding of cars to a train. AAR asserts that the provisions contained in this section and in § 232.209 of the final rule are somewhat confusing regarding the addition of solid blocks of cars to a train. AAR states that it believes FRA did not intend the final rule to require a Class I brake test on the entire train when the train consist is changed by the addition of cars. AAR again contends that it sees no basis in FRA's determination that a Class I brake test must be performed on a block of cars when added to a train if the block of cars is made up of cars from various different trains. Therefore, AAR recommends clarification of the inspection requirements related to the adding of solid blocks of cars and recommends elimination of the limitation on adding more than a single solid block of cars without triggering a requirement to perform a Class I brake test on the entire train, which is contained at paragraph (a)(2)(i) of this section in the final rule. AAR also contends that FRA failed to address situations where a solid block of cars is removed from one train and is added to another train but the cars were required to be divided into multiple blocks when removed from the first train due to trackage constraints at the location prior to being added to the second train. AAR argues that there is no difference between this circumstance and leaving the cars coupled together. Consequently, at a minimum, AAR recommends that FRA clarify the final rule requirements to address situations where solid blocks of cars from only one train are required to be divided to accommodate track limitations at a location.

FRA agrees with AAR's concerns regarding the final rule's intent to concern itself with the inspection of the solid block of cars being added to a train and determining the nature of the inspection of that solid block on the basis of its composition. The preamble to the final rule makes clear that FRA's primary concern is the condition of the block of cars being added to the train, especially when the block of cars is made up of cars from more than one previous train. The preamble made clear that the final rule will permit a solid

block of cars to be added to a train without triggering a requirement to perform a Class I brake test on the entire train but depending on the make-up of the block of cars, certain inspections will have to be performed on the block of cars at the location where it is added to the train. See 66 FR 4168. However, contrary to the assertions made by AAR in its petition, the final rule was never intended to permit the addition of more than a single solid block of cars to a train at any one location. FRA believes that both the explicit language of the final rule text and the preamble discussion clearly establish that only a single solid block of cars may be added at any one location without triggering a requirement to conduct a Class I brake test on the entire train. See 66 FR 4168, 4202. FRA continues to believe that the rationale, set out in the preamble to the final rule, for not permitting multiple solid blocks of cars to be added to a train at any one location remains valid and need not be reiterated. See 66 FR 4168. Consequently, FRA is denying AAR's request to remove paragraph (a)(2)(i) from this section as the preamble to the final rule clearly states the intended purpose of the final rule to permit the addition of only a single solid block of cars at any one location without the need to conduct a Class I brake test on the entire train.

In response to the other concerns raised by AAR in its petition, FRA is amending this section of the final rule by adding a new paragraph (b) to clarify the inspection requirements related to the situation where a solid block of cars is added to a train. It should be noted that FRA amended the definition of "solid block of cars" contained in § 232.5 of the final rule to aid in the clarification of the inspection requirements related to the addition of a solid block of car. (See Section-by-Section Analysis of § 232.5). The new paragraph (b) makes clear that all solid blocks of cars added to a train, except those described in paragraphs (b)(1) and (b)(2), are to receive either a Class I brake test pursuant to § 232.205 of the final rule or a Class II brake test pursuant to § 232.209 of the final rule at the location where they are added to a train. Paragraph (d) of § 232.209 of the final rule also makes clear that if a Class II brake test is performed on a solid block of cars when added to a train, then a Class I brake test pursuant to § 232.205 of the final rule must be conducted on the added cars at the next forward location where facilities are available for performing such an inspection. See 66 FR 4173, 4204. FRA intends to make clear that if a Class I brake test is performed on the solid

block of cars at the location where it is added to a train, no further brake inspections are required of that block while it remains charged in the train, except for Class IA/1,000-mile brake tests covered by § 232.207 of the final rule. It should be noted that if a solid block of cars is pre-tested (i.e., given either a Class I or Class II brake test at the location it will be added to a train prior to being added to the train) or the solid block of cars meets one of the exceptions contained in new paragraphs (b)(1) or (b)(2) of this section, a Class III brake test pursuant to § 232.211 must be conducted on the train to which the pretested solid block of cars is added at the time it is added to the train. See 66 FR 4173-74, 4204. In order to avoid any misunderstanding, FRA intends to make clear that if the required Class I or Class II brake test is performed on the solid block of cars after it is added to the train, then there would be no need to conduct a Class III brake test on the entire train after the performance of those inspections because the requirements for performing a Class I or Class II brake test while the cars are entrained ensure that trainline continuity is achieved, which is the purpose of a Class III brake test. See 66 FR 4173-74, 4202-04.

New paragraphs (b)(1) and (b)(2) are being added to explicitly clarify the two types of cars or solid blocks of cars which may be added to an en route train without being required to receive either a Class I or Class II brake test at the location where they are added to the train. As discussed in detail above, when these types of solid blocks are added to a train, the train must receive a Class III brake test pursuant to § 232.211 of the final rule. See 66 FR 4204. Paragraph (b)(1) makes clear that there are four conditions that must be met by a solid block of cars in order to be added to a train without being required to receive either a Class I or Class II brake test at the location where it is added.

First, the solid block of cars must be comprised of cars from a single previous train. Contrary to AAR's contentions raised in its petition, FRA continues to believe that the addition of blocks of cars comprised of cars from various different trains without inspection would allow the assembling of trains without inspection, which is clearly contrary to the intent of Congress when adopting the brake inspection requirements contained in part 232 prior to May 31, 2001, and would seriously reduce the safety of train operations across the nation. See 66 FR 4119, 4168. Second, the cars in the solid block must have previously received a Class I brake test. Thus, cars previously

receiving only a transfer train brake test pursuant to § 232.215 of the final rule would not meet this requirement. Third, the cars in the solid block must have remained continuously and consecutively coupled together, except for removing defective equipment, since being removed from its previous train. Thus, there can be no reclassification of the cars contained in the solid block since being removed from its previous train. Finally, the solid block of cars may not have been off a source of compressed air of at least 60 psi for more than four hours before being added to the en route train. FRA believes that the clarification contained in this paragraph is consistent with the intent and purpose of the final rule as it pertained to the adding of solid blocks of cars without further inspection. *See* 66 FR 4119, 4167–74.

Paragraph (b)(2) is being added in response to a concern raised in AAR's petition regarding the circumstance where a solid block of cars, meeting all of the requirements discussed in the preceding paragraph, must be divided to accommodate trackage constraints at a particular location. FRA agrees with the position set forth by AAR that some allowance should be provided in the final rule to accommodate this practice. FRA believes that no significant safety hazard is created by permitting a solid block of cars from a single previous train to be divided into smaller segments to accommodate space or trackage constraints at a particular location. It should be noted that this paragraph requires that each of the smaller segments remain continuously and consecutively coupled, not be removed from a source of compressed air for more than four hours, and be added to the new train in the same relative order as when removed from the previous train. Thus, the smaller segments of the larger solid block of cars initially removed from the previous train may not be rearranged or reclassified prior to being added to a train, or when, added to a train. FRA believes that the restrictions imposed by this paragraph with regard to the handling of a divided solid block of cars ensure the safety and integrity of the brake system on such blocks while limiting the potential for railroads to use the flexibility provided to assemble and classify trains without conducting necessary inspections. It should also be noted that this exception applies only to solid blocks of cars from a single previous train that are required to be divided into smaller segments due to trackage or space constraints at a particular location. FRA does not intend

to extend the flexibility provided in this paragraph to every location or to be used by a railroad merely out of convenience to the railroad.

Due to FRA's addition of a new paragraph (b) to this section in response to petitions for reconsideration, FRA is redesignating paragraphs (b) through (e) of this section in the final rule as paragraphs (c) through (e), respectively. Redesignated paragraph (c)(2) (paragraph (b)(2) of the final rule) is being modified for clarification purposes in response to a concern raised in AAR's petition. AAR recommends that FRA make the word "inspector" used in this paragraph plural. AAR believes FRA should recognize that many railroads use more than one inspector to conduct the inspection required in this section. Thus, AAR asserts that the rule text should make clear that it is the inspection team that is to inspect both sides of the equipment sometime during the inspection process, not any single inspector. FRA agrees with the recommendation made by AAR in its petition. FRA did not intend to suggest that a Class I brake test may be performed by only one inspector, nor did FRA intend to limit the methods by which railroads conduct such an inspection. In fact, the preamble to the final rule discusses the requirements contained in this paragraph in terms of "inspectors" and "individuals" and indicates that the method of performing the required inspection would be left to the discretion of the railroads provided such methods ensure that all required components are properly inspected. *See* 66 FR 4169–70. Consequently, FRA is modifying this paragraph of the final rule by making the term "inspector" plural.

Redesignated paragraph (c)(4) of this section (paragraph (b)(4) of the final rule) is also being modified in response to an issue raised by AAR in its petition. In its petition, AAR seeks clarification of FRA's intent regarding the pressure at which a retest of a car is to be conducted. AAR asserts that a strict reading of this provision in the final rule would require that the retest be conducted at the operating pressure of the train. AAR recommends that the language of the requirement be modified to permit the retest to be performed at a pressure that is within 15 psi of the pressure at which the train will be operated. AAR contends that other cars in the train may be initially tested at a pressure that is anywhere between 75 and 90 psi because the final rule permits the pressure at the rear of the train to be within 15 psi of the pressure at which the train will be operated. *See* 66 FR 4202–03. Thus, AAR maintains that

a retest of a car's air brakes should be permitted to be conducted at the same pressure as that of any other car in the train. FRA agrees with the position of AAR and is amending this paragraph to clarify that the retesting of a car may be conducted at a pressure that is within 15 psi of the pressure at which the train will be operated. FRA believes this clarification is consistent with the other inspection requirements contained in the final rule as noted in the above discussion of AAR's concern. Furthermore, although the final rule text and attendant preamble discussion are somewhat ambiguous on this issue, FRA's intent was to require that a retest of any brake found not to apply, or failing to remain applied, be conducted in a manner that is consistent with the way other brakes in the train are tested.

In its petition, AAR objects to the final rule requirement contained in redesignated paragraph (e) of this section (paragraph (d) in the final rule) that the information provided to a locomotive engineer and the related record regarding the performance of a Class I brake test include the identity of the qualified person(s) performing the inspection. AAR contends that this information is not needed by a locomotive engineer to operate the train. AAR recommends that the requirement be deleted. FRA agrees that the information is not necessarily needed by the locomotive engineer to operate a train. However, FRA does believe the information is necessary to ensure accountability for the performance of the required Class I brake test and provides the engineer with confidence that the inspection was properly performed. Furthermore, the information provides FRA and the railroads with a readily accessible means to monitor an employee's performance and adds a measure of enforceability to the final rule's requirement to have qualified individuals perform these safety-critical inspections. Moreover, the identity of the person(s) conducting these types of inspections is currently maintained by virtually all railroads and is presently being provided to locomotive engineers by many railroads. Consequently, FRA is denying AAR's request to delete the requirement to provide the identity of the qualified person performing a Class I brake test as FRA believes that the information provides accountability and enforceability and is consistent with existing practice on many railroads.

Section 232.207 Class IA Brake Tests—1,000-Mile Inspection

Paragraphs (b)(1) and (b)(4) of this section are being modified so that the

references to § 232.205 contained in these paragraphs conform with the redesignations being made to that section. As discussed in detail above, § 232.205 of the final rule is being modified to include a new paragraph (b) and, thus, paragraphs (b) through (e) of that section in the final rule are being redesignated as paragraphs (c) through (f). Consequently, conforming changes are being made to paragraphs (b)(1) and (b)(4) of this section to alter the references from paragraph (b) of § 232.205 to redesignated paragraph (c) of that section.

Section 232.209 Class II Brake Tests-Intermediate Inspection

Paragraphs (b)(1) and (b)(3) of this section are being modified so that the references to § 232.205 contained in these paragraphs conform with the redesignations being made to that section. As discussed in detail above, § 232.205 of the final rule is being modified to include a new paragraph (b) and thus, paragraphs (b) through (e) of that section in the final rule are being redesignated as paragraphs (c) through (f). Consequently, conforming changes are being made to paragraphs (b)(1) and (b)(3) of this section to alter the references from paragraph (b) of § 232.205 to redesignated paragraph (c) of that section.

Paragraph (a)(3) of this section is being modified to conform with the new paragraph (a)(4) being added to this section. As discussed in detail above, § 232.205 of the final rule is being modified to include a new paragraph (b) that explicitly describes the types of solid blocks of cars that may be added to a train without further direct visual inspection. Therefore, a new paragraph (a)(4) is being added to this section to conform with the language contained in the new clarifying paragraph (b) added to § 232.205 of the final rule. It should also be noted that the last sentence of paragraph (f) of this section in the final rule is being removed for clarity. FRA believes that the last sentence of paragraph (f) may have created some of the confusion, expressed by AAR in its petition, regarding when Class III brake tests are to be performed. Thus, consistent with the discussion contained in the above analysis of § 232.205 and because the language contained in the last sentence of paragraph (f) of this section duplicates the requirements contained in § 232.211 regarding the performance of Class III brake tests, FRA is removing this sentence. See 66 FR 4204.

Section 232.211 Class III Brake Tests-Trainline Continuity Inspection.

A new paragraph (a)(4) is being added to this section to conform with the language contained in the new clarifying paragraph (b) added to § 232.205 of the final rule. As discussed in detail above, § 232.205 of the final rule is being modified to include a new paragraph (b) that explicitly describes the types of solid blocks of cars that may be added to a train without further direct visual inspection. Thus, paragraph (a)(3) and the new paragraph (a)(4) of this section are intended to explain that when the types of solid blocks described in § 205.205(b)(1) and (b)(2) are added to a train, the train is required to receive a Class III brake test pursuant to the provisions contained in this section. Paragraph (a)(4) of this section as contained in the final rule is being redesignated as paragraph (a)(5). What was paragraph (a)(5) of this section in the final rule is being moved to a new paragraph (d) in this section and is being modified as explained in detail below.

Paragraph (b)(1) of this section is being amended in response to concerns raised in AAR's petition regarding the pressure at which Class III brake test are required to be performed. AAR contends that because the purpose of a Class III brake test is to ensure trainline continuity there is no reason to require the pressure at the rear of the train to be not less than 75 psi. AAR recommends that a Class III brake test be permitted to be performed when the air pressure at the rear of the train reaches 60 psi. AAR asserts that to require the trainline to be charged to a minimum of 75 psi rather than 60 psi will add 15 minutes to the charging time of a 100-car train prior to the test being performed and that there is no safety purpose served by requiring the higher trainline pressure. FRA agrees with the recommendation made in AAR's petition. As the sole purpose of a Class III brake test is to ensure that the train brake pipe is delivering air to the rear of the train, FRA believes that this can easily be ascertained with a rear brake pipe pressure of 60 psi. See 66 FR 4173-74. Moreover, FRA is not aware of any safety hazard caused by permitting this brake test to be performed at the lower rear car pressure. Furthermore, FRA also agrees that this allowance will help reduce train delay and reduce the amount of time public and private highway-rail grade crossings are blocked for the purposes of conducting this inspection. Consequently, FRA is amending paragraph (b)(1) of this section to permit Class III brake tests to

be conducted when the pressure at the rear of the train is a minimum of 60 psi.

As noted above, a new paragraph (d) is being added to this section to address concerns raised in AAR's petition regarding the performance of a Class III brake test when trainline continuity is broken but no changes to the train consist occur. AAR contends that the regulations as they existed prior to the issuance of the final rule only required the railroad to verify that brake pressure is being restored to the rear of the train after an otherwise unchanged train consist is recoupled. AAR believes this same allowance should be provided for in the final rule and contends that such a provision would further reduce the amount of time that grade crossings are required to be blocked. FRA agrees with the position of AAR. Part 232 as it existed prior to the issuance of the final rule did permit the recoupling of an unchanged train consist with a verification that the air pressure is being restored at the rear of the train. See 49 CFR 232.13(b). Thus, FRA agrees that the current practice within the industry is to conduct a rear pressure verification inspection when an otherwise unchanged train consist is recoupled. FRA also believes that normally, absent vandalism, if the train consist is not changed or altered by either the removal, replacement, or addition of equipment there should be no effect on the operation of the train's brake system that cannot be identified with a rear pressure verification inspection. FRA further agrees that permitting the method of testing suggested by AAR would reduce the time trains spend blocking public and private grade crossings. Therefore, FRA is adding a new paragraph (d) to this section, which requires verification that the brake pipe pressure of the train is being restored as indicated by a rear car gauge or end-of-train device in circumstances where the continuity of the brake pipe is broken with the train consist otherwise remaining intact. It should be noted that the new paragraph clearly requires that a visual inspection of the application and release of the brakes on the rear car be conducted in the absence of a rear car gauge or end-of-train-device.

Section 232.213 Extended Haul Trains

AAR again raises concerns regarding the viability of the provisions contained in this section of the final rule. AAR continues to assert that the 1,500-mile limitation placed on extended haul trains provides little benefit to the industry. AAR reasserts its request to extend the mileage limitation contained in this section of the final rule. FRA believes that the preamble to the final

rule fully addresses the mileage limitation concerns raised by AAR and provides a complete discussion of FRA's rationale for limiting the distance these train are permitted to travel between brake inspection. See 66 FR 4119–21, 4174–75. FRA sees no need to reiterate that discussion in this document. Moreover, FRA continues to believe that AAR's concerns regarding the viability of the provisions contained in this section of the final rule are misplaced and inaccurate.

Paragraphs (a)(6) and (a)(7) of this section are being modified in response to concerns raised in AAR's petition regarding the performance and documentation of inbound inspections on extended haul trains. AAR contends that if FRA's stated purpose for requiring inbound inspections on these trains is to assess the impact of the provisions on the safety of such train operations, then FRA should place a known time limit on this assessment. AAR's petition implies that three years would be a more than sufficient time period for FRA to evaluate any negative safety impacts arising from the provisions contained in this section. AAR's also contends that the inbound inspection and recordkeeping requirements contained in the final rule with regard to extended haul trains are major impediments to the viability of the provisions.

FRA tends to agree with the concerns raised by AAR with regard to this portion of the extended haul provisions. The final rule made clear that the purpose of the inbound inspections on these trains is to facilitate the assessment of the safety and operational effects of the provisions contained in this section. See 66 FR 4174–75. Thus, FRA agrees that the requirement to perform inbound inspections should be for a limited period, during which such assessments can be conducted. FRA believes that the three-year period recommended by AAR in its petition would provide FRA and the railroads with sufficient time to evaluate the effects of these extended operations. Therefore, FRA is amending paragraphs (a)(6) and (a)(7) of this section to limit the requirement to perform inbound inspections on extended haul trains and maintain the related records to a period of three years from the applicability date of the provisions; i.e., until April 1, 2007. However, as FRA will utilize this three-year period to assess the safety and operational aspects of these extended operations, FRA must have a means by which it may extend the requirement to perform inbound inspections in the event the assessment discloses safety or operational hazards.

Consequently, the amended provisions will permit FRA to continue to require the performance of inbound inspections on these trains should the evaluation reveal detrimental effects on the safety of these operations. The modifications make clear that FRA must publish a notice in the **Federal Register** of its decision to continue the inbound inspection requirement detailing the basis for such a determination. The modifications also make clear that the determination to extend the inbound inspection requirement will be based on the records required to be maintained under paragraph (a)(7) of this section and any other relevant safety data.

Section 232.215 Transfer Train Brake Tests

Paragraph (a)(3) of this section is being modified so that the reference to § 232.205 contained in this paragraph conforms with the redesignations being made to that section. As discussed in detail above, § 232.205 of the final rule is being modified to include a new paragraph (b) and thus, paragraphs (b) through (e) of that section in the final rule are being redesignated as paragraphs (c) through (f). Consequently, a conforming change is being made to paragraph (a)(3) of this section to alter the reference from paragraph (b)(4) of § 232.205 to redesignated paragraph (c)(4) of that section.

Section 232.217 Train Brake Tests Conducted Using Yard Air

Paragraph (c) of this section is being modified so that the references to § 232.205 contained in this paragraph conform with the redesignations being made to that section. As discussed in detail above, § 232.205 of the final rule is being modified to include a new paragraph (b) and thus, paragraphs (b) through (e) of that section in the final rule are being redesignated as paragraphs (c) through (f). Consequently, conforming changes are being made to paragraph (c) of this section to alter the references from paragraph (b) of § 232.205 to redesignated paragraph (c) of that section.

Paragraph (c)(3) of this section is also being modified in response to concerns raised in AAR's petition regarding the performance of the required leakage or air flow test of the brake system using yard air. AAR recommends that the leakage or air flow test, required to be performed at the pressure at which the train will be operated pursuant to the requirements contained in § 232.205, be permitted to be performed at 80 psi when yard air is used to perform a

leakage or air flow test pursuant to the Class I brake test requirements. AAR contends that the final rule requirement to perform these tests when the locomotives are attached if the yard air source is not capable of attaining the psi pressure at which the train will be operated (which for most trains is 90 psi) would result in a delay of at least five minutes per train. AAR asserts that current industry practice when using yard air is to perform the leakage or air flow tests at 80 psi and that this practice has not resulted in any known adverse impact on safety. AAR also notes that most yard air sources in use today are not capable of producing 90 psi as required for these tests under § 232.205 of the final rule. Thus, AAR suggests that substantial train delay would result from waiting to perform these tests until locomotive power is attached.

FRA agrees with the concerns raised by AAR in its petition and is amending paragraph (c)(3) of this section of the final rule to permit the leakage or air flow test to be conducted at 80 psi when yard air is used to conduct a required leakage or air flow test. FRA agrees that it has permitted railroads to perform these tests with yard air at 80 psi for years and is not aware of any detrimental effect on safety. FRA also agrees that most yard air sources currently being used in the industry lack the capability to produce air pressure at 90 psi. FRA further believes that the 10-psi allowance will not significantly affect the performance or accuracy of either the leakage or air flow test. It should be noted that the modified language requires that the leakage or air flow test be conducted when the locomotives are attached if the air pressure of the yard test device is anything less than 80 psi. Furthermore, the allowance provided by the modification being made to this section applies only to instances when yard air test devices are used to conduct required leakage or air flow test. FRA intends to make clear that, if locomotives are used to perform these tests, then the train must be charged to the pressure at which it will be operated.

Section 232.219 Double Heading and Helper Service

Paragraph (c)(2) of this paragraph is being modified in response to a request made by AAR in its petition regarding the resetting of a helper link device or similar technology. AAR requests that the final rule's requirement that a method to reset the device be provided in the cab of the helper locomotive be modified to permit the devices to reset automatically rather than be reset by the

locomotive engineer manually. FRA believes that allowance should be provided to permit the use of the automatic reset technology being incorporated into some helper link devices and similar technology. FRA believes the automatic reset capability would eliminate one more thing that a locomotive engineer must manually operate or control, thereby allowing the engineer to focus on a smaller set of tasks. Thus, paragraph (c)(2) of this section is being amended to require locomotives equipped with a helper link device or similar technology to be equipped with a means to reset the device in the cab of the locomotive manually or, in the alternative, have the device or locomotive equipped with a means to reset the device automatically. The amended final rule language makes clear that the automatic reset function must occur within a time interval that is no less than the time required to reset the device from the cab of the locomotive manually.

In its petition, BLE suggests that the final rule be modified to require that a separate computer screen or switch be provided in the cab of a helper locomotive to pull the coupling pin or uncouple the helper unit from the train being pushed. BLE provided no rationale or discussion regarding the need for this added technology. Furthermore, BLE did not indicate whether such technology is currently available at a reasonable price. Moreover, FRA is not aware of a significant safety problem related to existing helper operations. Consequently, FRA is denying BLE's request to require the suggested technology on helper locomotives.

Subpart D—Periodic Maintenance and Testing Requirements

Section 232.303 General Requirements

FRA is making a clarifying amendment to the definition of "major repair" contained in paragraph (a)(2) of this section in the final rule. On August 1, 2001, the requirements regarding periodic maintenance and testing contained in subpart D became applicable to the industry. When including the definitions of "repair track" and "major repair" in the final rule, FRA's purpose was not to alter the basic approach to capturing cars for periodic brake testing at appropriate intervals as currently existed in the industry. FRA also intended for these and other definitions in the final rule to be consistent with FRA's existing enforcement policies and guidance. See 66 FR 4178 and 66 FR 39684. On January 12, 2000, prior to the issuance

of the final rule, FRA issued Technical Bulletin (TB) MP&E 00-01 containing enforcement guidance regarding what constitutes a repair or shop track. The definitions of "repair track" and "major repair" contained in the final rule codified much of the guidance contained in the above noted TB.

Subsequent to the issuance of TB MP&E 00-01, based on concerns raised by the industry, FRA issued oral guidance to its inspection forces explaining that the practice of changing wheels on intermodal cars located on intermodal loading ramps does not qualify the track as a repair track and that such activity did not constitute a major repair. Although this guidance was not formalized in the form of a TB, the guidance has been and continues to be FRA's enforcement position. Therefore, as FRA's primary intent when issuing the final rule definitions was to remain consistent with existing enforcement guidance and policies, FRA did not intend to consider the changing of wheels on intermodal cars at intermodal loading ramps to constitute a "major repair" for the purposes of § 232.203(a)(2) when issuing the final rule. On October 19, 2001, FRA issued TB MP&E 01-04 containing the above noted guidance to its field inspection forces. Consequently, the modification to this section merely incorporates enforcement guidance existing prior to the issuance of the final rule and makes clear that trackage at an intermodal loading ramp was not intended to be and should not be considered a "repair track" under § 232.303(a)(1) when only wheel change-outs (whether an air jack is used or not) and other minor repairs are performed on such trackage. However, if major repairs are performed on the cars at the loading ramp, then the definition of "shop or repair track" contained in § 232.303(a)(1) will apply and the car(s) should be handled accordingly. It should also be noted that if a wheel change-out is due to the wheel having any of the defective conditions identified in § 232.305(b)(5), then a single car test is to be conducted on that car pursuant to the requirements contained in this subpart regardless of the location where the defect is discovered or the wheel is changed.

Subpart E—End-of-Train Devices

Section 232.407 Operations Requiring Use of Two-Way End-of-Train Devices; Prohibition on Purchase of Nonconforming Devices

A new paragraph (g)(2) is being added to this section in response to concerns raised in AAR's petition regarding the operation of a train when the two-way

EOT fails while the train is operating on a section of track with an average grade of two percent or greater for a distance of two continuous miles. AAR contends that although the preamble to the final rule discusses the operation of trains on such grades when communication failures occur on the provided alternative methods of operation over heavy grades, the final rule fails to provide any provisions for operating on such grades when a failure of a two-way EOT occurs while actually operating on the heavy grade. AAR recommends that provisions similar to those provided for the alternative methods of operation should also be included to address a failure of the two-way EOT while a train is in the process of traversing a heavy grade averaging two percent for two continuous miles.

FRA shares the concerns raised by AAR in its petition and believes that clarification of the requirements covering these circumstances should be addressed in the final rule. FRA believes that the preamble to the final rule makes clear that the stopping of trains in circumstances where the two-way EOT fails while a train is traversing a heavy grade should be done in accordance with the railroad's operating rules. See 66 FR 4184. When issuing the two-way EOT requirements, FRA did not intend for engineers to place themselves in unsafe situations when they encounter an en route failure of the device when traversing a heavy grade. Although the existing rule prohibits the operation of a train over certain heavy grades when a failure of the device occurs en route, FRA did not intend that the train be immediately stopped when a failure of the device occurs while operating on a heavy grade. Rather, FRA intended for the locomotive engineer to conduct the movement in accordance with the railroad's operating rules for bringing the train safely to a stop at the first available location. Therefore, safety may require that the train continue down the grade or to a specific siding rather than come to an immediate halt.

Consequently, a new paragraph (g)(2) is being added to the final rule which makes clear that, if a two-way EOT fails while a train is traversing a section of track with an average grade of two percent for two continuous miles, the train is to be brought to a stop at the first available location in accordance with a railroad's operating rules. FRA believes this clarification is consistent with FRA's intent and expectations when issuing the two-way EOT regulations.

Section 232.409 Inspection and Testing of End-of-Train Devices

Paragraph (c) of this section is being modified to read the way the paragraph read when initially included in the final rule issued on January 17, 2001. Prior to May 31, 2001, this paragraph required that, if the person conducting the test of the two-way end-of-train device on a train is someone other than a train crew member, the locomotive engineer of the train must be notified of the name of the person conducting the test and a record must be maintained, in the cab of the controlling locomotive, containing the name of the person conducting the test. See 66 FR 4210. Although this requirement originally had a compliance date of May 31, 2001, FRA deferred the compliance date of the requirement until further notice in order to allow FRA an opportunity to respond to AAR's petition for reconsideration which questioned the need for this specific provision. See 66 FR 29501 (May 31, 2001). AAR's petition questions the need for the locomotive engineer to be informed of the name of the person testing the two-way EOT. AAR recommends elimination of the requirement.

The preamble to the final rule makes clear that the purpose of the requirements to provide the locomotive engineer with the date and time of the test, the location where the test was performed, and the name of the person performing the test is to ensure that locomotive engineers are provided sufficient information to confirm that the devices are properly inspected and tested and to provide locomotive engineers with a measure of confidence that the devices will work as intended. See 66 FR 4184. FRA continues to believe all of the information originally contemplated by the final rule is necessary to ensure accountability for performing proper inspections and tests of the devices. The information also provides both FRA and the railroads with a means to monitor the inspection practices of individuals responsible for performing inspections and tests required by the final rule. Furthermore, as AAR's petition notes that railroads maintain the required information, FRA sees little burden being imposed by the final rule in requiring that the information to be provided to the locomotive engineer. Consequently, the language of paragraph (c) of this section is being revised to read the same as it did when the final rule was issued on January 17, 2001. See 66 FR 4210.

Paragraph (d) of this section of the final rule is being amended in response to concerns raised in a late-filed petition

submitted by UP regarding the periodic calibration of two-way EOT devices. In its petition UP recommends that the periodic calibration period be changed from every 365 days as required by the final rule to every 368 days. UP contends that a 368-day period would be consistent with the 92-day periodic inspection cycle required for locomotive by part 229. See 49 CFR 229.23. UP requests this change to avoid having to take locomotives out of service to perform the calibration of the two-way EOT device head-end. UP also requests that the 368-day calibration period not begin running until the unit is placed back in service after being calibrated. UP contends that several railroads remove the head-end units from their locomotives to have the annual testing and calibration performed by outside parties. After the calibration is complete, the unit is returned to the railroad and may remain in storage for a considerable length of time prior to being placed back in service on a locomotive.

FRA tends to agree with the issues and concerns raised by UP in its petition. FRA agrees that it is only logical to make the calibration period of two-way EOT devices coincide with the periodic inspection interval for locomotives. FRA also agrees that the calibration period for the devices should begin from the time the devices are actually placed back in service after receiving the required testing and calibration. However, FRA believes that EOT devices should not be permitted to be stored indefinitely prior to being placed in service without being retested and calibrated, if necessary. FRA believes that the 92-day periodic inspection cycle for locomotives provides an adequate out-of-service or "shelf-life" period. This would allow head-end units to be removed at one periodic inspection for testing and calibration, and then be replaced at the next periodic inspection for that locomotive. FRA does not believe that a 92-day shelf life will impact the operation or calibration of the devices and will provide railroads with flexibility in meeting the testing and calibration requirements contained in the final rule. It should be noted, that FRA has left it to the railroads to determine how to track and record any shelf life. Consequently, paragraph (d) of this section of the final rule is being amended by extending the testing and calibration to 368 days and by providing up to a 92-day shelf-life for the devices after being properly tested and calibrated.

It should be noted that AAR raised a concern regarding the discussion related

to bench testing of EOT devices contained in the preamble to the final rule. See 66 FR 4185. Although agreeing with FRA that regulations on bench testing were unnecessary, AAR objected to FRA's implication that the bench test of an EOT device transported in a truck should remain valid for only one hour. FRA believes that AAR has misconstrued the discussion contained in the preamble to the final rule regarding the reasonable time period for which a bench test of the device would remain valid. In the preamble discussion, FRA was merely attempting to point out that what constitutes a reasonable time between bench testing and installation of the devices varies based upon the environment and conditions to which the device is exposed after being bench tested. The preamble was attempting to illustrate that mistreatment of the devices after testing would severely limit the time for which a bench test would remain valid. See 66 FR 4185. FRA did not intend to imply that the bench test on any device transported in a vehicle would remain valid for only one hour. The focus of the determination should be on the handling of device and the conditions to which the device is exposed subsequent to conducting the bench test.

Appendix A to Part 232—Schedule of Civil Penalties

Appendix A to this part contains the schedule of civil penalties to be used in connection with this part. Conforming changes are being made to the schedule of civil penalties based on the changes being made to the final rule discussed in detail above.

Appendix B to Part 232—Part 232 prior to May 31, 2001

A conforming change is being made to § 232.13(d)(2)(i) of part 232 as it existed prior to May 31, 2001. Section 232.13(d)(2)(i) of part 232 as it existed prior to May 31, 2001, incorrectly cites to § 232.13(c)-(j) as the section under which cars added to a train are to be inspected. See 66 FR 4216. This typographical error was made when part 232 was revised in 1986. See 51 FR 17303 (May 9, 1986). When part 232 was originally issued, § 232.13(d)(2)(i) correctly cited a reference to § 232.12 (c)-(j). See 33 FR 19679 (December 25, 1968). Compare § 232.13(d)(1), (d)(2)(ii) and (e)(2), of part 232 as it existed prior to May 31, 2001, all of which correctly cite the initial terminal test provisions in § 232.12(c)-(j). Consequently, FRA is correcting this typographical error for clarity purposes in this document.

Paragraphs (a)(2)(iii) and (b)(3) of § 232.17 are being amended in response to concerns raised in RPCA's petition regarding the accessibility and availability of the testing documents referenced in these two paragraphs. RPCA contends that the referenced standards and documents are no

longer available from the sources indicated in § 232.17 as it existed prior to May 31, 2001. FRA is amending paragraph (a)(2)(iii) of § 232.17 to clarify that the single car test required to be performed pursuant to this paragraph may be conducted in accordance with the applicable AAR Code of Tests or the APTA standard referenced in 49 CFR 238.311(a). FRA has retained the requirement to utilize the applicable AAR standard because FRA recognizes that the new APTA standard does not address every type of brake system used on many tourist and excursion operations. Thus, where the referenced APTA standard related to performing single car tests on certain passenger equipment does not address a particular brake system, FRA would expect the applicable AAR standard to be utilized. Paragraph (b)(3) of § 232.17 is being amended by inserting FRA's current address as the location where the standards and procedures referenced in § 232.17 can be obtained. FRA believes it has copies of all the material referenced in this section and can provide them to interested parties upon request.

In its petition, RPCA also sought clarification of the periodicity for performing the required cleaning, repair, lubrication, and testing required by § 232.17(b) as it existed prior to May 31, 2001. The referenced AAR Standard S-045 contains the periodicity for performing the required attention. FRA would expect equipment used in tourist, historic, scenic, and excursion operations to conduct the required maintenance in accordance with that referenced AAR standard. If such equipment were to be hauled in a freight train covered by the new part 232 or in a passenger train covered by part 238 of this chapter, then FRA would expect the equipment to meet the testing and inspection requirements contained in those regulations. FRA does not believe this rulemaking is the proper forum for changing or modifying the inspection, testing, and maintenance requirements applicable to tourist, historic, scenic, and excursion operations. In the preamble to the final rule FRA noted that it has established a Tourist and Historic Railroads Working Group formed under Railroad Safety Advisory Committee to specifically address the applicability of FRA's regulations to these unique types of operations. FRA made clear that any requirements issued by FRA for these types of operations would be part of a separate rulemaking proceeding. See 66 FR 4145-46.

Regulatory Impact

Executive Order 12866 and DOT Regulatory Policies and Procedures

This response to petitions for reconsideration of the final rule has been evaluated in accordance Executive Order 12866 and DOT policies and procedures. Although the final rule met the criteria for being considered a significant rule under those policies and procedures, the amendments contained in this response to petitions for reconsideration of the final rule are not considered significant because they

either clarify requirements currently contained in the final rule or allow for greater flexibility in complying with the rule. The economic impact of the amendments and clarifications contained in this response to petitions for reconsideration will generally reduce the cost of compliance with the rule. However, the cost reduction is not easily quantified and does not significantly alter FRA's original analysis of the costs and benefits associated with the original final rule.

In the detailed discussion of AAR's concerns regarding the final rule's regulatory evaluation contained above, FRA acknowledges that it erred in the final rule's RIA when estimating the safety benefits to be derived from the specific accidents included in the analysis. (See preamble above: "I. Discussion of Regulatory Evaluation Concerns.") However, FRA believes that the error and resulting reduction in the safety benefits does not in anyway compromise the integrity of the analysis or impact the decisions made by FRA and does not change the necessity for any of the provisions contained in the final rule. Furthermore, FRA finds all the other economic issues raised by AAR in its petition for reconsideration to be either incorrect, unfounded, or unpersuasive. FRA continues to believe that it has been both reasonable in its cost estimates and extremely conservative in its estimates of benefits related to the final rule. Moreover, FRA believes that the modifications and clarifications being made to the final rule in this response to the petitions for reconsideration, will not only reduce the potential regulatory costs but will also increase the benefits associated with the final rule. Therefore, the costs and benefits quantified in the final rule's RIA are even more conservative than when originally calculated by FRA. Consequently, FRA strongly supports the economic arguments and estimates advanced in its RIA for the final rule.

Regulatory Flexibility Act

The Regulatory Flexibility Act of 1980 (5 U.S.C. 601 *et seq.*) requires a review of rules to assess their impact on small entities. FRA certifies that this response to petitions for reconsideration does not have a significant impact on a substantial number of small entities. Because the amendments contained in this document either clarify requirements currently contained in the final rule or allow for greater flexibility in complying with the rule, FRA has concluded that there are no substantial economic impacts on small units of government, businesses, or other organizations.

Paperwork Reduction Act

This response to petitions for reconsideration of the final rule does not significantly change any of the information collection requirements contained in the original final rule.

Environmental Impact

FRA has evaluated this response to petitions for reconsideration of the 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 document 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) of FRA's Procedures.

Federalism Implications

FRA believes it is in compliance with Executive Order 13132. Because the amendments contained in this response to petitions for reconsideration of the final rule either clarify requirements currently contained in the final rule or allow for greater flexibility in complying with the rule, this document will not have a substantial effect 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. This response to petitions for reconsideration of the final rule will not have federalism implications that impose any direct compliance costs on State and local governments.

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 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) 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. Because the amendments contained in this response to petitions for reconsideration of the final rule either clarify requirements currently contained in the final rule or allow for greater flexibility in complying with the rule, this document will not result in the expenditure, in the aggregate, of \$100,000,000 or more in any one year, and thus preparation of such a statement is not required.

Energy Impact

Executive Order 13211 requires Federal agencies to prepare a Statement of Energy Effects for any "significant energy action." 66 FR 28355 (May 22, 2001). Under the Executive Order, a "significant energy action" is defined as any action by an agency (normally published in the Federal Register) 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 response to petitions for reconsideration of the final rule in accordance with Executive Order 13211. Because the amendments contained in this response to petitions for reconsideration of the final rule either clarify requirements currently contained in the final rule or allow for greater flexibility in complying with the rule, FRA has determined that this document will not have a significant adverse effect on the supply, distribution, or use of energy. Consequently, FRA has determined that this regulatory action is not a "significant energy action" within the meaning of Executive Order 13211.

List of Subjects in 49 CFR Part 232

Incorporation by reference, Penalties, Railroad power brakes, Railroad safety, Two-way end-of-train devices.

For the reasons set forth in the preamble, Part 232 of Chapter II of Title 49 of the Code of Federal Regulations is amended to read as follows:

PART 232—[AMENDED]

1. The authority citation for Part 232 continues to read as follows:

Authority: 49 U.S.C. 20102–20103, 20107, 20133, 20141, 20301–20303, 20306, 21301–21302, 21304; 49 CFR 1.49 (c), (m).

Subpart A—General—[Amended]

2. Section 232.5 is amended by revising, introductory text and the definitions of Brake, effective and Solid block of cars:

§ 232.5 Definitions.

The definitions in this section are intended to clarify the meaning of terms used in this part as it becomes applicable pursuant to § 232.1(b) and (c).

* * * * *

Brake, effective means a brake that is capable of producing its nominally designed retarding force on the train. A car's air brake is not considered effective if it is not capable of producing its nominally designed retarding force or if its piston travel exceeds:

(1) 10 1/2 inches for cars equipped with nominal 12-inch stroke brake cylinders; or

(2) The piston travel limit indicated on the stencil, sticker, or badge plate for that brake cylinder.

* * * * *

Solid block of cars means two or more freight cars coupled together and added to or removed from a train as a single unit.

* * * * *

3. Section 232.15 is amended by revising paragraphs (b)(1) and (g) to read as follows:

§ 232.15 Movement of defective equipment.

* * * * *

(b) Tagging of defective equipment.

(1) At the place where the railroad first discovers the defect, a tag or card shall be placed on both sides of the defective equipment, except that defective locomotives may have the tag or card placed in the cab of the locomotive. In lieu of a tag or card, an automated tracking system approved for use by FRA shall be provided. The tag, card, or automated tracking system shall contain the following information about the defective equipment:

- (i) The reporting mark and car or locomotive number;
(ii) The name of the inspecting railroad;
(iii) The name and job title of the inspector;
(iv) The inspection location and date;
(v) The nature of each defect;

- (vi) A description of any movement restrictions;
(vii) The destination where the equipment will be repaired; and
(viii) The signature, or electronic identification, of the person reporting the defective condition.

* * * * *

(g) Designation of repair locations.

Based on the guidance detailed in paragraph (f) of this section and consistent with other requirements contained in this part, a railroad may submit a detailed petition, pursuant to the special approval procedures contained in § 232.17, containing a plan designating locations where brake system repairs will be performed. Approval of such plans shall be made accordance with the procedures contained in § 232.17, and shall be subject to any modifications determined by FRA to be necessary to ensure consistency with the requirements and guidance contained in this part.

4. Section 232.17 is amended by revising paragraphs (a), (b) introductory text, (b)(2), (b)(3), (d)(2) intro text, (d)(2)(i), (g)(1), and (g)(2) to read as follows:

§ 232.17 Special approval procedure.

(a) General. The following procedures govern consideration and action upon requests for special approval of a plan under § 232.15(g), an alternative standard under § 232.305, and for special approval of pre-revenue service acceptance testing plans under subpart F of this part.

(b) Petitions for special approval of a plan or an alternative standard. Each petition for special approval of a plan under § 232.15(g) or an alternative standard shall contain:

* * * * *

(2) The proposed plan pursuant to § 232.15(g) or the proposed alternative standard, in detail, to be substituted for the particular requirement of this part;

(3) Appropriate data or analysis, or both, for FRA to consider in determining whether the plan is consistent with the guidance contained in § 232.15(f) and the requirements of this part or whether the alternative standard will provide at least an equivalent level of safety; and

* * * * *

(d) * * *

(2) Service of each petition for special approval of a plan or an alternative standard submitted under paragraph (b) of this section shall be made on the following:

(i) Designated representatives of the employees of the railroad submitting a plan pursuant to § 232.15(g) or

designated representatives of the employees responsible for the equipment's operation, inspection, testing, and maintenance under this part;

* * * * *

(g) * * *

(1) If FRA finds that the petition complies with the requirements of this section and that the proposed plan under § 232.15(g), the alternative standard, or the pre-revenue service plan is acceptable and justified, the petition will be granted, normally within 90 days of its receipt. If the petition is neither granted nor denied within 90 days, the petition remains pending for decision. FRA may attach special conditions to the approval of any petition. Following the approval of a petition, FRA may reopen consideration of the petition for cause.

(2) If FRA finds that the petition does not comply with the requirements of this section and that the proposed plan

under § 232.15(g), the alternative standard, or the pre-revenue service plan is not acceptable or justified, the petition will be denied, normally within 90 days of its receipt.

* * * * *

5. Section 232.103 is amended as follows:

- a. Paragraph (p) is removed; and
- b. Paragraphs (n)(2), (n)(3), and (o) are revised to read as follows:

§ 232.103 General requirements for all train brake systems.

* * * * *

(n) * * *

(2) Except for equipment connected to a source of compressed air (e.g., locomotive or ground air source), prior to leaving equipment unattended, the brake pipe shall be reduced to zero at a rate that is no less than a service rate reduction, and the brake pipe vented to atmosphere by leaving the angle cock in the open position on the first unit of the equipment left unattended.

(3) Except for distributed power units, the following requirements apply to unattended locomotives:

(i) All hand brakes shall be fully applied on all locomotives in the lead consist of an unattended train.

(ii) All hand brakes shall be fully applied on all locomotives in an unattended locomotive consist outside of yard limits.

(iii) At a minimum, the hand brake shall be fully applied on the lead locomotive in an unattended locomotive consist within yard limits.

(iv) A railroad shall develop, adopt, and comply with procedures for securing any unattended locomotive required to have a hand brake applied pursuant to paragraph (n)(3)(i) through (n)(3)(iii) when the locomotive is not equipped with an operative hand brake.

* * * * *

(o) Air pressure regulating devices shall be adjusted for the following pressures:

Locomotives	PSI
(1) Minimum brake pipe air pressure:	
Road Service	90
Switch Service	60
(2) Minimum differential between brake pipe and main reservoir air pressures, with brake valve in running position	15
(3) Safety valve for straight air brake	30-55
(4) Safety valve for LT, ET, No. 8-EL, No. 14 EI, No. 6-DS, No. 6-BL and No. 6-SL equipment	30-68
(5) Safety valve for HSC and No. 24-RL equipment	30-75
(6) Reducing valve for independent or straight air brake	30-50
(7) Self-lapping portion for electro-pneumatic brake (minimum full application pressure)	50
(8) Self-lapping portion for independent air brake (full application pressure)	30-50
(9) Reducing valve for high-speed brake (minimum)	50

* * * * *

6. Section 232.109 is amended by revising paragraphs (a), (g), (h), and (j)(2) to read as follows:

§ 232.109 Dynamic brake requirements.

(a) Except as provided in paragraph (i) of this section, a locomotive engineer shall be informed of the operational status of the dynamic brakes on all locomotive units in the consist at the initial terminal for a train and at other locations where a locomotive engineer first begins operation of a train. The information required by this paragraph may be provided to the locomotive engineer by any means determined to be appropriate by the railroad; however, a written or electronic record of the information shall be maintained in the cab of the controlling locomotive.

* * * * *

(g) All locomotives equipped with dynamic brakes and ordered on or after April 1, 2006, or placed in service for the first time on or after October 1, 2007, shall be designed to:

(1) Conduct an electrical integrity test of the dynamic brake to determine if electrical current is being received at the grids on the system; and

(2) Display in real-time in the cab of the controlling (lead) locomotive the total train dynamic brake retarding force available in the train.

(h) All rebuilt locomotives equipped with dynamic brakes and placed in service on or after April 1, 2004, shall be designed to:

(1) Conduct an electrical integrity test of the dynamic brake to determine if electrical current is being received at the grids on the system; and

(2) Display either the train deceleration rate or in real-time in the cab of the controlling (lead) locomotive the total train dynamic brake retarding force available in the train.

* * * * *

(j) * * *

(2) Include a "miles-per-hour-overspeed-stop" rule. At a minimum, this rule shall require that any train when descending a section of track with an average grade of one percent or

greater over a distance of three continuous miles shall be immediately brought to a stop, by an emergency brake application if necessary, when the train's speed exceeds the maximum authorized speed for that train by more than 5 miles per hour. A railroad shall reduce the 5-miles-per-hour-overspeed-stop restriction if validated research indicates the need for such a reduction. A railroad may increase the 5-miles-per-hour-overspeed restriction only with approval of FRA and based upon verifiable data and research.

* * * * *

7. Section 232.203 is amended as follows:

a. Paragraph (e)(6) is removed;

b. Paragraphs (e)(7) through (e)(9) are redesignated as paragraphs (e)(6) through (e)(8) respectively; and

c. Paragraphs (b)(6) and (b)(8) are revised to read as follows:

§ 232.203 Training requirements.

* * * * *

(b) * * *

(6) An employee hired or working prior to June 1, 2001, for a railroad or contractor covered by this part will be considered to have met the requirements, or a portion of the requirements, contained in paragraphs (b)(3) through (b)(5) of this section if the employee receives training and testing on the specific Federal regulatory requirements contained in this part related to the performance of the tasks which the employee will be responsible for performing; and if:

(i) The training or testing, including efficiency testing, previously received by the employee is determined by the railroad or contractor to meet the requirements, or a portion of the requirements, contained in paragraphs (b)(3) through (b)(5) of this section and such training or testing can be documented as required in paragraphs (e)(1) through (e)(4) of this section;

(ii) The employee passes an oral, written, or practical, "hands-on" test developed or adopted by the railroad or contractor which is determined by the railroad or contractor to ensure that the employee possesses the skills and knowledge, or a portion of the skills or knowledge, required in paragraphs (b)(3) through (b)(5) of this section and the test is documented as required in paragraph (e) of this section; or

(iii) The railroad or contractor certifies that a group or segment of its employees has previously received training or testing determined by the railroad or contractor to meet the requirements, or a portion of the requirements, contained in paragraphs (b)(3) through (b)(5) of this section and complete records of such training are not available, provided the following conditions are satisfied:

(A) The certification is placed in the employee's training records required in paragraph (e) of this section;

(B) The certification contains a brief description of the training provided and the approximate date(s) on which the training was provided; and

(C) Any employee determined to be trained pursuant to this paragraph is given a diagnostic oral, written, or "hands-on" test covering that training for which this paragraph is relied upon at the time the employee receives his or her first periodic refresher training under paragraph (b)(8) of this section.

(iv) Any combination of the training or testing contained in paragraphs (b)(6)(i) through (b)(6)(iii) of this section and paragraphs (b)(3) through (b)(5) of this section.

* * * * *

(8) Require periodic refresher training, at an interval not to exceed three years,

that includes classroom and "hands-on" training, as well as testing; except that employees that have completed their initial training under paragraphs (b)(3) through (b)(6) of this part prior to April 1, 2004, shall not be required to complete their first periodic refresher training until four years after the completion of their initial training, and every three years thereafter. Observation and evaluation of actual performance of duties may be used to meet the "hands-on" portion of this requirement, provided that such testing is documented as required in paragraph (e) of this section; and

* * * * *

8. Section 232.205 is amended as follows:

a. Paragraph (f) is removed;
b. Paragraphs (b) through (e) are redesignated as paragraphs (c) through (f) respectively;

c. A new paragraph (b) is added;
d. The introductory text of paragraph (a) is revised; and
e. Paragraph (a)(2)(i) and redesignated paragraphs (c)(2) and (c)(4) are revised to read as follows:

§ 232.205 Class I brake test-initial terminal inspection.

(a) Each train and each car in the train shall receive a Class I brake test as described in paragraph (c) of this section by a qualified person, as defined in § 232.5, at the following points:

* * * * *

(2) * * *
(i) Adding a single car or a solid block of cars, except as provided in paragraph (b)(2) of this section;

* * * * *

(b) Except as provided in § 232.209, each car and each solid block of cars added to a train shall receive a Class I brake test as described in paragraph (c) of this section at the location where it is added to a train unless:

(1) The solid block of cars is comprised of cars from a single previous train, the cars of which have previously received a Class I brake test and have remained continuously and consecutively coupled together with the train line remaining connected, other than for removing defective equipment, since being removed from its previous train and have not been off air for more than four hours; or

(2) The solid block of cars is comprised of cars from a single previous train, the cars of which were required to be separated into multiple solid blocks of cars due to space or trackage constraints at a particular location when removed from the previous train, provided the cars have previously

received a Class I brake test, have not been off air more than four hours, and the cars in each of the multiple blocks of cars have remained continuously and consecutively coupled together with the train line remaining connected, except for the removal of defective equipment. Furthermore, these multiple solid blocks of cars shall be added to a train in the same relative order (no reclassification) as when removed from the previous train, except for the removal of defective equipment.

* * * * *

(c) * * *
(2) The inspector(s) shall take a position on each side of each car sometime during the inspection process so as to be able to examine and observe the functioning of all moving parts of the brake system on each car in order to make the determinations and inspections required by this section. A "roll-by" inspection of the brake release as provided for in paragraph (b)(8) of this section shall not constitute an inspection of that side of the train for purposes of this requirement;

* * * * *

(4) The brakes on each car shall apply in response to a 20-psi brake pipe service reduction and shall remain applied until a release of the air brakes has been initiated by the controlling locomotive or yard test device. The brakes shall not be applied or released until the proper signal is given. A car found with brakes that fail to apply or remain applied may be retested and remain in the train if the retest is conducted at an air pressure that is within 15 psi of the air pressure at which the train will be operated. The retest may be conducted from either the controlling locomotive, the head-end of the consist, or with a suitable test device, as described in § 232.217(a), positioned at one end of the car(s) being retested, and the brakes shall remain applied until a release is initiated after a period which is no less than three minutes. If the retest is performed at the car(s) being retested with a suitable device, the compressed air in the car(s) shall be depleted prior to disconnecting the hoses between the car(s) to perform the retest;

* * * * *

9. Section 232.207 is amended by revising paragraphs (b)(1) and (b)(4) to read as follows:

§ 232.207 Class IA brake tests—1,000-mile inspection.

* * * * *

(b) * * *
(1) Brake pipe leakage shall not exceed 5 psi per minute, or air flow

shall not exceed 60 cubic feet per minute (CFM). The brake pipe leakage test or air flow method test shall be conducted pursuant to the requirements contained in § 232.205(c)(1);

* * * * *

(4) The brakes on each car shall apply in response to a 20-psi brake pipe service reduction and shall remain applied until the release is initiated by the controlling locomotive. A car found with brakes that fail to apply or remain applied may be retested and remain in the train if the retest is conducted as prescribed in § 232.205(c)(4); otherwise, the defective equipment may only be moved pursuant to the provisions contained in § 232.15, if applicable;

* * * * *

10. Section 232.209 is amended as follows:

a. The last sentence of paragraph (d) is removed;

b. A new paragraph (a)(4) is added; and

c. Paragraphs (a)(3), (b)(1), and (b)(3) are revised to read as follows:

§ 232.209 Class II brake tests-intermediate inspection.

(a) * * *

(3) Except as provided in paragraph (a)(4) of this section, each solid block of cars that is comprised of cars from only one previous train, the cars of which have not remained continuously and consecutively coupled together with the train line remaining connected since being removed from the previous train. A solid block of cars is considered to have remained continuously and consecutively coupled together with the train line remaining connected since being removed from the previous train if it has been changed only by removing defective equipment.

(4) Each solid block of cars that is comprised of cars from a single previous train, the cars of which were required to be separated into multiple solid blocks of cars due to space or trackage constraints at a particular location when removed from the previous train, if they are not added in the same relative order as when removed from the previous train or if the cars in each of the multiple blocks of cars have not remained continuously and consecutively coupled together with the train line remaining connected, except for the removal of defective equipment.

(b) * * *

(1) Brake pipe leakage shall not exceed 5 psi per minute, or air flow shall not exceed 60 cubic feet per minute (CFM). The brake pipe leakage test or air flow method test shall be conducted on the entire train pursuant

to the requirements contained in § 232.205(c)(1);

* * * * *

(3) The brakes on each car added to the train and on the rear car of the train shall be inspected to ensure that they apply in response to a 20-psi brake pipe service reduction and remain applied until the release is initiated from the controlling locomotive. A car found with brakes that fail to apply or remain applied may be retested and remain in the train if the retest is conducted as prescribed in § 232.205(c)(4); otherwise, the defective equipment may only be moved pursuant to the provisions of § 232.15, if applicable;

* * * * *

11. Section 232.211 is amended as follows:

a. A new paragraph (d) is added; and
b. Paragraphs (a)(4), (a)(5), and (b)(1) are revised to read as follows:

§ 232.211 Class III brake tests-trainline continuity inspection.

(a) * * *

(4) At a point other than the initial terminal for the train, where a solid block of cars that is comprised of cars from a single previous train is added to a train, provided that the solid block of cars was required to be separated into multiple solid blocks of cars due to space or trackage constraints at a particular location when removed from the previous train, and the cars have previously received a Class I brake test, have not been off air more than four hours, and the cars in each of the multiple blocks of cars have remained continuously and consecutively coupled together with the train line remaining connected, except for the removal of defective equipment. Furthermore, these multiple solid blocks of cars must be added to the train in the same relative order (no reclassification) as when removed from the previous train, except for the removal of defective equipment;

(5) At a point other than the initial terminal for the train, where a car or a solid block of cars that has received a Class I or Class II brake test at that location, prior to being added to the train, and that has not been off air for more than four hours is added to a train.

(b) * * *

(1) The train brake system shall be charged to the pressure at which the train will be operated, and the pressure at the rear of the train shall not be less than 60 psi, as indicated at the rear of the train by an accurate gauge or end-of-train device;

* * * * *

(d) Whenever the continuity of the brake pipe is broken or interrupted with

the train consist otherwise remaining unchanged, it must be determined that the brake pipe pressure of the train is being restored as indicated by a rear car gauge or end-of-train device prior to proceeding. In the absence of an accurate rear car gauge or end-of-train telemetry device, it must be determined that the brakes on the rear car of the train apply and release in response to air pressure changes made in the controlling locomotive.

12. Section 232.213 is amended by adding three new sentences to the end of paragraph (a)(6) and one new sentence to the end of paragraph (a)(7) to read as follows:

§ 232.213 Extended haul trains.

(a) * * *

(6) * * * After April 1, 2007, the inbound inspection described in this paragraph shall not be required unless FRA provides notification to the industry extending the requirement to perform inbound inspections on extended haul trains. FRA's determination to extend the inbound inspection requirement will be based on the records required to be maintained pursuant to paragraph (a)(7) of this section and any other relevant safety data. FRA's notification will be published in the **Federal Register** and will contain the basis of any determination.

(7) * * * After April 1, 2007, the records described in this paragraph need not be maintained unless FRA provides the notification required in paragraph (a)(6) of this section extending the requirement to conduct inbound inspections on extended haul trains.

* * * * *

13. Section 232.215 is amended by revising paragraph (a)(3) to read as follows:

§ 232.215 Transfer train brake tests.

(a) * * *

(3) An inspection shall be made to determine that the brakes on each car apply and remain applied until the release is initiated by the controlling locomotive. A car found with brakes that fail to apply or remain applied may be retested and remain in the train if the retest is conducted as prescribed in § 232.205(c)(4); otherwise, the defective equipment may be moved only pursuant to the provisions contained in § 232.15, if applicable;

* * * * *

14. Section 232.217 is amended by revising the introductory text of paragraph (c) and by revising paragraphs (c)(1) and (c)(3) to read as follows:

§ 232.217 Train brake tests conducted using yard air.

* * * *

(c) Except as provided in this section, when yard air is used the train air brake system must be charged and tested as prescribed by § 232.205(c) and when practicable should be kept charged until road motive power is coupled to train, after which, a Class III brake test shall be performed as prescribed by § 232.211.

(1) If the cars are off air for more than four hours, the cars shall be retested in accordance with § 232.205(c) through (f).

* * * *

(3) If the air pressure of the yard test device is less than 80 psi, then a brake pipe leakage or air flow test shall be conducted at the operating pressure of the train when the locomotives are attached in accordance with § 232.205(c)(1).

* * * *

15. Section 232.219 is amended by revising paragraph (c)(2) to read as follows:

§ 232.219 Double heading and helper service.

* * * *

(c) * * *

(2) A method to reset the device shall be provided in the cab of the helper locomotive that can be operated from the engineer's usual position during operation of the locomotive. Alternatively, the helper locomotive or the device shall be equipped with a means to automatically reset the device, provided that the automatic reset occurs within the period time permitted for manual reset of the device; and

* * * *

16. Section 232.303 is amended by revising paragraph (a)(2) to read as follows:

§ 232.303 General requirements.

(a) * * *

(2) *Major repair* means a repair that normally would require greater than four person-hours to accomplish or would involve the use of specialized tools and equipment. Major repairs include such activities as coupler replacement, draft gear repair, and repairs requiring the use of an air jack but exclude changing wheels on intermodal loading ramps either with or without an air jack.

* * * *

17. Section 232.407 is amended by adding paragraph (g)(2) to read as follows:

§ 232.407 Operations requiring use of two-way end-of-train devices; prohibition on purchase of nonconforming devices.

* * * *

(g) * * *

(2) If a two-way end-of-train device fails en route while the train on which it is installed is operating over a section of track with an average grade of two percent or greater for a distance of two continuous miles, the train shall be brought safely to a stop at the first available location in accordance with the railroad's operating rule, except the train may continue in operation if the railroad provides one of the alternative measures detailed in paragraph (g)(1) of this section.

* * * *

18. Section 232.409 is amended by revising paragraphs (c) and (d) to read as follows:

§ 232.409 Inspection and testing of end-of-train devices.

* * * *

(c) A two-way end-of-train device shall be tested at the initial terminal or other point of installation to determine that the device is capable of initiating an emergency power brake application from the rear of the train. If this test is conducted by a person other than a member of the train crew, the locomotive engineer shall be notified that a successful test was performed. The notification required by this paragraph may be provided to the locomotive engineer by any means determined appropriate by the railroad; however, a written or electronic record of the notification shall be maintained in the cab of the controlling locomotive and shall include the date and time of the test, the location where the test was performed, and the name of the person conducting the test.

(d) The telemetry equipment shall be tested for accuracy and calibrated if necessary according to the manufacturer's specifications and procedures at least every 368 days. The 368 days shall not include a shelf-life of up to 92 days prior to placing the unit in service. This test shall include testing radio frequencies and modulation of the device. The date and location of the last calibration or test as well as the name of the person performing the calibration or test shall be legibly displayed on a weather-resistant sticker or other marking device affixed to the outside of both the front unit and the rear unit; however, if the front unit is an integral part of the locomotive or is inaccessible, then the information may recorded on Form FRA F6180-49A instead, provided

that the serial number of the unit is recorded.

* * * *

19. Appendix A to part 232 is amended by removing § 232.103(p) from the Schedule of Civil Penalties.

20. Appendix B to part 232 is amended by:

- A. Revising the heading;
- B. Designating the current text as subdivision I and adding a heading;
- C. Adding subdivision II.

The revised and added text reads as follows:

Appendix B to Part 232—Part 232 prior to May 31, 2001 as Clarified Effective April 10, 2002.

1. Part 232 prior to May 31, 2001.

* * * *

II. Clarification effective April 10, 2002.

This subdivision II contains the following clarifications of 49 CFR part 232 as it read before May 31, 2001. Section 232.13(d)(2)(i) is amended to correct a typographical error made in 1986. See 33 FR 19679, 51 FR 17303. Section 232.17(a)(2)(iii) is amended to clarify that the single car test required to be performed pursuant to this paragraph may be conducted in accordance with the applicable AAR Code of Tests or the American Public Transportation Association standard referenced in 49 CFR 238.311(a). Section 232.17(b)(3) is amended by inserting FRA's current address as the location where the standards and procedures referenced in § 232.17 can be obtained.

§ 232.13 Road train and intermediate terminal train air brake tests.

* * * *

(d) * * *
(2)(i) At a terminal where a solid block of cars, which has been previously charged and tested as prescribed by § 232.12 (c) through (j), is added to a train, it must be determined that the brakes on the rear car of the train apply and release. As an alternative to the rear car application and release test, it shall be determined that brake pipe pressure of the train is being reduced as indicated by a rear car gauge or device and then that brake pipe pressure of the train is being restored as indicated by a rear car gauge or device.

* * * *

§ 232.17 Freight and passenger train car brakes.

(a) * * *

(2) * * *

(iii) When a car equipped for use in passenger train service not due for periodical air brake repairs, as indicated by stenciled or recorded cleaning dates, is on shop or repair tracks, brake equipment must be tested by use of single car testing device as prescribed by the applicable AAR Code of Tests or

by the American Public Transportation Association (APTA) standard referenced in § 238.311(a) of this chapter. Piston travel of brake cylinders must be adjusted if required, to the standard travel for that type of brake cylinder. After piston travel has been adjusted

and with brakes released, sufficient brake shoe clearance must be provided.

* * * * *

(b) * * *

(3) Copies of the materials referred to in this section may be obtained from the Federal Railroad Administration, Office of Safety, RRS-14, 1120 Vermont

Avenue, NW., Stop 25, Washington DC 20590.

* * * * *

Issued in Washington, DC, on April 1, 2002.

Allan Rutter,

Federal Railroad Administrator.

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