

1111FEDERAL RAILROAD ADMINISTRATION
Locomotive Crashworthiness
(Title 49 Code of Federal Regulations Parts 229 and 238)
SUPPORTING JUSTIFICATION
OMB Control No. 2130-0564

Summary of Submission

- This submission is a request for an extension with change of the last three-year approval granted by the Office of Management and Budget (OMB) on July 5, 2017, and which expires July 31, 2020.
- The Federal Railroad Administration (FRA) published the required 60-day *Federal Register* Notice on April 22, 2020. See 85 FR 22512. FRA received no comments in response to this Notice.
- The total number of burden hours requested for this information collection is 507 hours. The total number of burden hours previously approved by OMB was 6,470 hours.
- The total number of responses requested for this information collection is 546. The total number of responses previously approved by OMB was 551.
- Overall, the adjustments decreased the burden by 5,963 hours and decreased responses by 5 after a thorough review of the data.
- The answer to question number 12 itemizes all information collection requirements with each requirement of these rules.
- The answer to question number 15 itemizes all adjustments associated with this rule.
- There are no program changes at this time.

1. Circumstances that make collection of the information necessary.

FRA has broad statutory authority to regulate railroad safety. The Locomotive Inspection Act (LIA) (formerly 45 U.S.C. 22-34, now 49 U.S.C. 20701-20703) was enacted in 1911. It prohibits the use of unsafe locomotives and authorizes FRA (by delegation from the Secretary of Transportation) to issue standards for locomotive maintenance and testing. In order to further FRA's ability to respond effectively to contemporary safety problems and hazards as they arise in the railroad industry, Congress enacted the Federal Railroad Safety Act of 1970 (Safety Act) (formerly 45 U.S.C. 421, 431 et seq., now found primarily in chapter 201 of Title 49). The Safety Act grants the Secretary of

Transportation rulemaking authority over all areas of railroad safety (49 U.S.C. 20103(a)) and authority to investigate and penalize violations of any rail safety law. This authority was subsequently delegated to the FRA Administrator (49 CFR 1.49).

In part 229 of Title 49 of the Code of Federal Regulations, FRA established minimum federal safety standards for locomotives. These regulations prescribe inspection and testing requirements for locomotive components and systems, minimum locomotive cab safety requirements, and even basic crashworthiness design requirements for electric multiple-unit type locomotives. On May 12, 1999, FRA issued regulations addressing the safety of passenger rail equipment, including passenger-occupied locomotives (i.e., cab control cars, powered multiple-unit passenger cars).¹

Background

In 1992, Congress enacted The Rail Safety Enforcement and Review Act (RSERA) Pub. L. 102-365, September 3, 1992. In response to concerns raised by employee organizations, members of Congress, and recommendations of the National Transportation Safety Board (NTSB) regarding locomotive crew safety, Congress included mandates concerning locomotive crashworthiness and cab working conditions in the legislation. Section 10 of RSERA, entitled “Locomotive Crashworthiness and Working Conditions,” required FRA “to complete a rulemaking proceeding to consider prescribing regulations to improve the safety and working conditions of locomotive cabs.”

In response to the mandate of Section 10 of RSERA, FRA conducted a study and performed research to consider additional crashworthiness features. Additionally, while assessing and evaluating train collisions for its *Locomotive Crashworthiness and Cab Working Conditions Report* to Congress, FRA determined that the Association of American Railroads (AAR) industry standard S-580 represented a significant step on the part of the industry to improve the crashworthiness of locomotives. Adopted in 1989, S-580 has served as the industry standard for crashworthiness design specifications of new railroad freight locomotives. At the time of its development, S-580 provided basic enhancements to the crashworthiness of conventional locomotives. However, an evaluation of FRA’s Congressional report indicated that implementation of selected additional crashworthiness features and incremental improvements in the current design could improve crew survivability in the event of a collision.

2. How, by whom, and for what purpose the information is to be used.

This is an extension with change to a current collection of information associated with FRA’s Part 229 rule. The information is used by FRA to ensure that locomotive manufacturers and railroads meet minimum performance standards and design load

¹ See 49 CFR Part 238.

requirements for newly manufactured and re-manufactured locomotives in order to help protect locomotive cab occupants in the event that one of these covered locomotives collides with another locomotive, the rear of another train, a piece of on-track equipment, a shifted load on a freight car on an adjacent parallel track, or a highway vehicle at a rail-highway grade crossing.

Under § 229.207, FRA reviews petitions for agency approval of new locomotive crashworthiness design standards, petitions for approval for substantive changes to an FRA-approved locomotive crashworthiness design standard, and petitions for FRA approval of non-substantive changes to the existing FRA-approved crashworthiness design standards to verify that required information has been provided so that the agency can make a determination whether it is justified, and safe to grant such petitions regarding newly manufactured or re-manufactured locomotives.

Under § 229.209, FRA reviews petitions for FRA approval of alternative locomotive crashworthiness designs to confirm that all mandated information has been provided so that it can assess the proposed design directly against the requirements of § 229.205 and make a determination about whether such an alternative design is safe and ought to be approved.

In order to determine compliance with the requirements of § 229.205 for petitions submitted under § 229.207(b), § 229.207(c), and § 229.209 (b), FRA considers and closely examines proper documentation of engineering analysis, and/or practical demonstrations, which may include computer modeling, structural crush analysis, component testing, full scale crash testing in a controlled environment, or any combination of these, together with evidence of effective peer review. If FRA finds that the petition complies with the requirements of this subpart and that the proposed change or new design standard satisfies the requirements contained in § 229.205, the petition is normally granted. If the petition does not comply with the requirements of this subpart, or the proposed change or new design standard does not satisfy the requirements in § 229.205 of this part, the petition is denied.

Under § 229.211, any person may comment on petitions submitted under § 229.207(b), § 229.207(c), and § 229.209(b). FRA realizes that changes in design of conventional locomotives might impact the safety of locomotive crews and other railroad employees, and FRA provides interested parties an opportunity to make their views known. If FRA determines that additional material is required to appropriately consider a petition, it will conduct a hearing on the petition, and provide notice of such hearing in the Federal Register. Comments and information submitted in these hearings are also carefully reviewed by the agency to determine whether it is safe and in the public interest to grant the petition.

In the event of an accident/incident involving one of these locomotives, FRA and state

investigators use the identifying information under § 229.213 to help determine the role that the specific locomotive played concerning train crew injuries/fatalities. FRA uses such information to help prevent a recurrence of similar types of casualties to other train crews operating locomotives made by the same manufacturer/re-manufacturer, or built to the same specifications, by enabling these manufacturer/re-manufacturers/railroads to make necessary design modifications/repairs.

Lastly, under § 229.215, FRA uses the required records to ensure manufacturers and re-manufacturers of locomotives comply with the crashworthiness design features of this subpart. FRA uses these records to ensure that any repairs or modifications made to locomotives subject to this subpart are proper and do not compromise the crashworthiness features to such an extent that the safety of locomotive cab occupants is jeopardized.

3. Extent of automated information collection.

FRA highly encourages the use of electronic recordkeeping, wherever possible, to reduce burden. In keeping with the requirements of the Paperwork Reduction Act and the Government Paperwork Elimination Act, FRA has provided respondents with the option for electronic submission of required information.

4. Efforts to identify duplication.

To FRA's knowledge, no information is duplicated anywhere.

Similar data is not available from any other source.

5. Efforts to minimize the burden on small businesses.

Currently, AAR's S-580 standard applies only to railroads which are primarily Class I railroads. The requirements of this subpart are mainly directed to this same group. To minimize the economic burden on small businesses, the requirements of this subpart apply only to locomotives manufactured or re-manufactured on or after a date three years following publication of the rule. Additionally, FRA is using the locomotive build date to exempt the current locomotive fleet from requirements of this rule. Also excluded from the requirements of this subpart are locomotives, such as passenger cab cars or multiple unit cars and semi-permanently coupled power cars built for passenger service. Locomotives used in designated service are excluded as well from application of most of the provisions of this rule.

Furthermore, the structural standards of this subpart (§ 238.203-static end strength; § 238.205-anti-climbing mechanism; § 238.207-link between coupling mechanism and car body; § 238.209-forward-facing end structure of locomotives; § 238.211-collision

posts; § 238.213-corner posts; § 238.215-rollover strength; § 238.217-side structure; § 238.219-truck-to-car-body attachment; and § 238.223-locomotive fuel tanks) do not apply to passenger equipment if used exclusively on a rail line: (i) With no public highway-rail grade crossings; (ii) On which no freight operations occur at any time; (iii) On which only passenger equipment of compatible design is utilized; and (iv) On which trains operate at speeds not exceeding 79 mph. Any such passenger equipment remains subject to the requirements of § 229.141 of this chapter, as applicable.

Additionally, under the provisions of the Regulatory Flexibility Act, it has been determined this rule does not impose a significant economic impact on a substantial number of small entities.

6. Impact of less frequent collection of information.

If this information collection were not conducted or conducted less frequently, railroad safety nationwide would be considerably adversely impacted. In particular, the number and extent of casualties to train crew personnel might increase substantially because newly manufactured/re-manufactured locomotives were not properly designed and sufficiently constructed to help protect occupants in the event that a locomotive collides with another locomotive, the rear of another train, a piece of on-track equipment, a shifted load on a freight car on an adjacent parallel track, or a highway vehicle at a rail-highway grade crossing.

Without this collection of information, FRA would be unable to review and evaluate changes and enhancements to the crashworthiness of freight locomotives. Without the ability to review petitions for new locomotive crashworthiness design standards, or petitions for approval of substantive changes to an FRA-approved locomotive crashworthiness design standard, or petitions for approval of an alternative locomotive crashworthiness design, FRA would have no way to determine whether it is safe and justified for the agency to approve locomotive manufacturers/railroads plans to implement new/innovative locomotive design standards.

Without this collection of information, FRA would be unable to obtain comments from railroad industry groups, locomotive manufacturers/re-manufacturers, other interested parties, and the public concerning a new locomotive design standard or changes to an FRA-approved locomotive design standard. Without the ability to hear from affected parties and to access the widest expertise and knowledge, FRA would be hindered in making an informed decision whether it is justified and safe to approve a new/alternative locomotive crashworthiness design standard or substantive changes to an FRA-approved locomotive crashworthiness design standard.

In sum, this collection of information furthers the agency's primary mission, which is to promote and enhance national rail safety, save lives, and protect property and the

environment.

7. Special circumstances.

Under § 229.215, each manufacturer or re-manufacturer of a locomotive subject to this subpart must retain records of the original locomotive designs pertaining to required crashworthiness features for the lesser period of the life of such locomotive or 20 years after the date of manufacture or re-manufacture. This provision is designed to ensure that conformity with the requirements of this subpart can be readily determined in the event that a locomotive's compliance with its design or performance standard is called into question.

Also, under this section, each owner or lessee of a locomotive subject to this part must retain all records of repair or modification to crashworthiness features for the lesser period of the life of the locomotive or 20 years after the date on which the repair/modification was performed. Such records are essential to ensure unsafe repairs/modifications are not made.

All other information collection requirements are in compliance with this section.

8. Compliance with 5 CFR 1320.8.

As required by the Paperwork Reduction Act of 1995, FRA published a notice in the Federal Register on April 22, 2020, soliciting comment on this particular information collection.² FRA received no comments pertaining to this collection of information in response to this notice.

9. Payments or gifts to respondents.

There are no monetary payments or gifts made to respondents associated with the information collection requirements contained in this regulation.

10. Assurance of confidentiality.

No assurances of confidentiality were made by FRA. Information collected is not of a private nature.

11. Justification for any questions of a sensitive nature.

There are no questions or information of a sensitive nature that normally would be considered private matters requested in this collection of information.

² See: 85 FR 22512.

12. Estimate of burden hours for information collected.

CFR Section	Respondent universe	Total Annual responses	Average time per responses	Total annual burden hours	Total cost equivalent
229.207(b)—Petitions for FRA approval of new locomotive crashworthiness design standards	746 railroads/4 locomotive manufacturers	2 petitions	50 hours	100 hours	\$7,600
—(c) Petition for FRA approval of substantive changes to FRA-approved locomotive crashworthiness design standard	746 railroads/4 locomotive manufacturers	1 petition	50 hours	50 hours	\$3,800
—(d) Petition for FRA approval of non-substantive changes to existing FRA approved locomotive crashworthiness design standard	746 railroads/4 locomotive manufacturers	1 petition	50 hours	50 hours	\$3,800
229.209(b)—Alternative locomotive crashworthiness designs—Petition for FRA approval	746 railroads/4 locomotive manufacturers	1 petition	50 hours	50 hours	\$3,800
229.211(b)(3)—Processing petitions—Additional information for FRA to appropriately consider the petition	746 railroads/4 locomotive manufacturers	1 hearing	24 hours	24 hours	\$1,824
229.213(a)(3)—Locomotive manufacturing information: retention by railroads	746 railroads	500 records/stickers/badge plates	2 minutes	16.7 hours	\$1,269
229.215—(a) Retention and inspection of designs—Retention of records—Original designs	4 locomotive manufacturers	24 records	8 hours	192 hours	\$14,592
—(b) Repairs and modifications—Records	746 railroads	6 records	4 hours	24 hours	\$1,824
—(c) Inspection of records	746 railroads	10 records	2 minutes	.3 hours	\$23
Total	746 railroads	546 responses	N/A	507 hours	\$38,532

13. Estimate of total annual costs to respondents.

Additional respondent cost outside of burden hours shown above for each information collection requirement is as follows:

Costs to Respondents	Annual Cost (\$)
Printing of interior decals	2,541
Printing of exterior decals	10,532
Postage	453
Copying charges	178
Miscellaneous	2,778
Total	\$16,482

14. Estimate of Cost to Federal Government.

The cost to the federal government includes employing Mechanical Engineers (GS-0830-14, Step 5) who will be responsible for reviewing and approving locomotive design standards. The FRA hourly rate for FRA employees who perform these duties is \$115.29, which includes 75 percent overhead. Annually, FRA employees are expected to spend approximately 120 hours per locomotive design/model for review and approval of each 1) new locomotive design, 2) substantial changes to the existing design standards, and 3) alternative locomotive crashworthiness standard. Also, FRA employees are expected to spend approximately 60 hours for each review of non-substantive changes to the existing locomotive crashworthiness design standards. The following table summarizes the annual costs to the federal government:

Federal Government Review Cost	Number per year	Hour per review	FRA employee hourly burden (\$) ³	Annual Federal Government Cost (\$)
New locomotive crashworthiness design standards	3	120	115.29	41,504
Substantive changes to an FRA-approved locomotive crashworthiness design standard	2	120	115.29	27,670
Alternative locomotive crashworthiness design	1	120	115.29	13,835
Non-substantive changes	4	60	115.29	

³ Office of Personal Management, Pay & Leave, Salaries & Wages, SALARY TABLE 2020-DCB, GS-14 Step 5. <https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/20Tables/html/DCB.aspx>

to the existing FRA-approved locomotive crashworthiness design standards				27,670
Total Annual Cost				\$110,679

15. Explanation of program changes and adjustments.

The current OMB agency inventory for this information collection exhibits a total burden of 6,470 hours and 551 responses, while the present submission reflects a total burden of 507 hours and 546 responses. Hence, there is a total decrease in burden of 5,963 hours and 5 responses.

FRA provided a thorough review of this package and determined many of our initial figures were based on rough estimates. Additionally, we realized some of the estimates were double counted and others were outdated. Moreover, other estimates were not PRA requirements, thus leading to the increased figures, which were decreased accordingly in this submission. Thus, our latest review has refined our estimates to be more accurate. The table below provides specific information on the review of any estimates that have changed.

TABLE FOR ADJUSTMENTS

CFR Section	Total Annual responses (Previous Submission)	Total Annual responses (Current Submission)	Adjustments	Total annual burden hours (Previous Submission)	Total annual burden hours (Current Submission)	Adjustments
229.207(b)—Petitions for FRA approval of new locomotive crashworthiness design standards	2 petitions	2 petitions	0	2,100 hours	100 hours	-2,000
—(c) Petition for FRA approval of substantive changes to FRA-approved locomotive crashworthiness	1 petition	1 petition	0	1,050 hours	50 hours	-1,000

ss design standard						
—(d) Petition for FRA approval of non-substantive changes to existing FRA approved locomotive crashworthiness design standard	1 petition	1 petition	0	400 hours	50 hours	-350
229.209(b)—Alternative locomotive crashworthiness designs—Petition for FRA approval	1 petition	1 petition	0	2,550 hours	50 hours	-2,500
229.211—(b) (2) Processing of petition—comments to FRA on petitions	5 comments	comments	-5	80 hours	hours	-80
229.213(a)(3)—Locomotive manufacturing information: retention by railroads	500 records/stickers/badge plates	500 records/stickers/badge plates	0	50 hours	17 hours	-33
Total	551 responses	546 responses	-5 responses	6,470 hours	507 hours	-5,963 hours

There is **no change** in cost to respondents from the previously approved submission.

16. Publication of results of data collection.

FRA plans no publication of this information.

17. Approval for not displaying the expiration date for OMB approval.

Once OMB approval is received, FRA will publish the approval number for these information collection requirements in the Federal Register.

18. Exception to certification statement.

No exceptions are taken at this time.

Meeting Department of Transportation (DOT) Strategic Goals

In this information collection, as in all its information collection activities, FRA seeks to do its utmost to fulfill DOT Strategic Goals and to be an integral part of One DOT.