

111FEDERAL RAILROAD ADMINISTRATION
Railroad Signal System Requirements
(Title 49 Code of Federal Regulations (CFR) Parts 233, 235, and 236)
SUPPORTING JUSTIFICATION
OMB Control No. 2130-0006

Summary of Submission

- This submission is a request for an extension without change (with changes in estimates) of the last three-year approval granted by the Office of Management and Budget (OMB) on January 29, 2019, which expires January 31, 2022.
- The Federal Railroad Administration (FRA) published the required 60-day Federal Register Notice on October 22, 2021. See 86 FR 58721. FRA received zero comments in response to this Notice.
- Overall, the adjustments decreased the burden by 222,073 hours and decreased responses by 730,025 after a thorough review of the data.
- The answer to question number 12 itemizes all information collection requirements.
- The answer to question number 15 itemizes all adjustments.

1. Circumstances that make collection of the information necessary.

FRA has broad statutory authority to regulate all areas of railroad safety. 49 U.S.C. 20103(a); 49 CFR 1.89. The Federal Railroad Safety Act of 1970, Public Law 91-458, contained this broad grant of authority and supplemented the older rail safety laws then in existence. The older safety laws had been enacted in a piecemeal approach and addressed specific fields of railroad safety. For instance, the Signal Inspection Act, 49 U.S.C. 26 (recodified at 49 U.S.C. 20502 et seq. (1994)), has governed the installation and removal of signal equipment since its enactment on August 26, 1937. Until July 5, 1994, the Federal railroad safety statutes existed as separate acts found primarily in Title 45 of the United States Code. On that date all of the acts were repealed and their provisions were recodified into Title 49 Chapters 201-213.

Pursuant to its general statutory rulemaking authority, FRA promulgates and enforces rules as part of a comprehensive regulatory program to address railroad safety, including railroad track, signal and train control systems, communications, rolling stock, operating practices, passenger train emergency preparedness, alcohol and drug testing, locomotive engineer certification, and workplace safety. In the area of railroad signal and train control systems, FRA has issued regulations, found at 49 CFR part 236 (“part 236”), addressing topics such as the security of signal apparatus housings against unauthorized

entry (49 CFR 236.3), location of roadway signals (49 CFR 236.21), and the testing of relays (49 CFR 236.106). Hereafter all references to parts and sections shall be parts and sections located in Title 49 of the Code of Federal Regulations.

The Signal, Train Control, and Crossings (STCC) Division at FRA promotes an understanding of and compliance with the various Federal regulations related to signal and train control systems, highway-rail grade crossing active warning systems, and the hours of service laws applicable to signal employees. The applicable regulations primarily address the design, installation, maintenance, inspection, and testing of these systems, and the necessary system components adjustment, repair, or replacement, as well as the associated recordkeeping and reporting requirements. The STCC Division determines the level of understanding and compliance with these standards and requirements primarily through the performance of inspection and investigation activities on the Nation's railroads.

A primary goal of the division is to assist in continually improving railroad safety by reducing the risk of train accidents and highway-rail grade crossing collisions that may be caused or contributed to by wrong-side failures in these safety-critical signal systems. Those failures include "false proceed signal failures" within a signal or train control system, and "activation failures" within highway-rail grade crossing active warning systems. Either of these type events is required to be reported to the FRA by the railroads and is investigated by STCC personnel.

The sections covered under this information collection require railroads to notify FRA when an accident/incident occurs because of a failure in a signal system. They also establish maintenance and testing standards for signal systems.

The information in this collection request supports FRA's mission of providing safe and efficient rail transportation. If information were not collected as required by these regulations, there may be more accident/incidents related to improperly maintained signal systems.

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

The information collected under 49 CFR parts 233, 235, and 236 is used by FRA to monitor railroad compliance with FRA's inspection and testing requirements for signal systems, as well as to review and approve railroad requests to discontinue or materially modify existing signal systems. The information collected is also used by FRA to monitor signal failures (e.g., failure of a signal appliance, device, method, or system to function or indicate as required by 49 CFR part 236 that results in a more favorable aspect than intended or other condition hazardous to the movement of a train).

For instance:

- § 233.5 requires each railroad to report to FRA within 24 hours after learning of an accident or incident arising from signal failure.
- § 233.7 requires each railroad to report signal failures within 15 days in accordance with the instructions printed on Form FRA F 6180.14.
- § 235.5 requires railroads to apply for FRA approval to discontinue or materially modify railroad signal systems.
- § 235.8 allows railroads to seek relief from the requirements in 49 CFR part 236.
- § 235.20 describes the protest process, including essential information that must be included in the protest, the address for filing the protest, the time limit for filing the protest, and the requirement that a protestant requesting a public hearing explain why written statements cannot be used to explain his or her position.
- § 236.110 requires that the results of signal system tests required under §§ 236.102 through 236.109; §§ 236.376 through 236.387; §§ 236.576 and 236.577; and §§ 236.586 through 236.589 be recorded on pre-printed forms provided by the railroad or by electronic means, subject to FRA approval.
- Finally, § 236.590 requires railroads to clean and inspect the automatic train stop, train control, or cab signal pneumatic apparatus on locomotives and then record the results of the inspection as required by § 229.29(a) of this chapter.

3. **Extent of automated information collection.**

To date, FRA estimates that approximately 67 percent of all responses are completed electronically by the railroads.

FRA strongly encourages the use of advanced information technology, wherever feasible, to reduce burden on respondents.

4. **Efforts to identify duplication.**

No other agency collects this unique information. FRA has other reporting requirements concerning railroad accident reporting (§ 225.11). Those reporting requirements do not require reporting the accident unless certain criteria of death, injury, or monetary damage are exceeded. The National Transportation Safety Board (NTSB) also requires certain accidents to be reported, but again has criteria which will not always require the reporting of all accidents. There is no duplication of other reporting or recordkeeping requirements in the signal rules.

The information concerning accidents caused by a failure of the signal system or signal appliances may need to be promptly investigated by trained personnel. This requires immediate notice so the inspector/investigator can be on the scene of the accident as soon as possible.

The railroad accident/incident reporting notification required by § 225.11 provides that the carrier may report the accident up to 30 days after the end of the month in which the

accident occurred. However, in the case of accidents involving signal systems, this is too long a timeframe. This long lapse in time would make a meaningful investigation impossible, since the condition(s) that caused the accident may change.

5. Efforts to minimize the burden on small businesses.

The different reporting burdens will vary from carrier to carrier. However, for the most part regarding this collection of information, the burden for the larger carriers will be greater, and the burden for the smaller carriers will be less, mainly as a result of the amount of equipment owned by the affected railroads.

For example, concerning signal system failure reports required under § 233.7, a large carrier which has many signal failures will expend considerable time each year completing and filing a large number of detailed reports, while a small carrier which has no signal failures will not make any reports at all. This also holds true of the recordkeeping burden. The smaller carriers with only a few hundred miles of signals have a relatively small burden, while the larger carriers – some of which have as much as 12,000 miles of signals – have a much larger burden.

6. Impact of less frequent collection of information.

If this information were not collected or collected less frequently, railroad safety throughout the United States would be seriously hindered. Specifically, without this collection of information, FRA could not examine records of test results to ensure that railroads are operating and maintaining safe signal systems. Malfunctioning signal systems could jeopardize the safety of train crews and the traveling public by causing an accident and lead to grave injuries and even deaths, as well as property damage and possibly environmental harm to surrounding communities.

Additionally, without this collection of information, FRA would not have the requisite information to determine the effectiveness of current regulations or the necessary information to ascertain when new regulations are needed.

If this information were collected less frequently, FRA would be deprived of essential information used to discern industry trends in signaling. Moreover, FRA would not be able to adequately determine if the nation's carriers are obtaining agency permission before modifying or discontinuing signal systems as required by the Signal Inspection Act (codified at 49 U.S.C. ch. 205). This could have harmful and possibly catastrophic safety consequences.

In sum, without this collection of information, FRA would be unable to enforce a critical safety regulation and to oversee an essential part of its comprehensive national rail safety program.

7. Special circumstances.

All information collection requirements are in compliance with this section.

8. Compliance with 5 CFR 1320.8.

In accordance with the Paperwork Reduction Act of 1995, Pub. L. No. 104-13, § 2, 109 Stat. 163 (1995) (codified as revised at 44 U.S.C. §§ 3501-3520), and its implementing regulations, 5 CFR Part 1320, FRA published a notice in the Federal Register on October 22, 2021, soliciting public comments on these information collection requirements. FRA solicited comments regarding whether the collection is necessary for FRA to properly execute its functions; the accuracy of FRA's estimates; ways to enhance the quality, utility, and clarity of the information collected; and ways for FRA to minimize the burden on the public.¹ FRA received zero comments in response to this Notice.

Consultations with representatives of the affected population:

FRA's oversight, field investigations, and enforcement of the applicable CFR sections under Parts 233, 235 and 236 place FRA personnel in direct railroad contact with individuals from the railroad industry on a routine basis. Many of the applications and accident reporting metrics include involvement from FRA's specialists, subject matter experts at FRA headquarters, and District specialists and inspectors. Field investigations are fundamental to FRA's process and routinely involve a site inspection that allows FRA to interface with those involved in what occurred, to determine root cause analysis or foster recommendations. The railroad industry has, at times, benefitted from field investigations by FRA's continued focused interactions and audits. This is especially true on the human factor causations that have led to Safety Advisories or Technical Bulletins in the past.

FRA also takes the time to fully investigate larger requests relating to Parts 233, 235 and 236 and makes recommendations to FRA's Railroad Safety Board on determinations whether the requests are in the public's interest.

9. Payments or gifts to respondents.

There are no monetary payments provided 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.

¹ 86 FR 58721.

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, or data that normally would be considered private matters contained in this collection of information.

12. Estimate of burden hours for information collected.

The estimates for the respondent universe, total annual responses, and average time per responses are based on the experience and expertise of FRA's Signal, Train Control, and Crossings Division under the Office of Railroad Systems and Technology.

The total annual burden hours, under the fifth column, is calculated by multiplying total annual responses by average time per responses. For example, 10 reports * 15 minutes = 2.50 hours.

The total cost equivalent, under the seventh column, is calculated by multiplying total annual burden hours by the appropriate employee group hourly wage rate that includes a 75-percent overhead charge. For example, 2.5 hours * \$77.47 = \$193.60. FRA is including the dollar equivalent cost for each of the itemized hours below using the 2020 Surface Transportation Board's (STB) Full-Year Wage A&B data series as the basis for each cost-equivalent calculation.

- For professional and administrative staff, the hourly wage rate is \$77.47 per hour (\$44.27 * 75-percent overhead charge).
- For transportation (other than train and engine) employees, the hourly wage is \$71.89 per hour (\$41.08 * 75-percent overhead charge).
- For maintenance of way & structures employees, the hourly wage rate is \$58.6 per hour (\$34.10 * 75-percent overhead charge).

CFR Section	Respondent universe	Total annual responses (A)	Average time per response (B)	Total annual burden hours (C) = A * B	Wage rate (D)	Total cost equivalent (E) = C * D	Section Analyses and Estimates
233.5—	754	1 telephone	30 minutes	0.50 hours	\$77.44	\$38.72	This paperwork requirement

Accidents resulting from signal failure—Telephone report to FRA	railroads	call					<p>requires each railroad to report to FRA within 24 hours after learning of an accident or incident arising from signal failure.</p> <p>FRA estimates that it will take about 30 minutes to gather the information resulting from signal failure and make the call to FRA's toll-free telephone number.</p>
233.7—Signal failure reports—Form FRA F 6180.14 "False Proceed Signal Report"	754 railroads	10 reports	15 minutes	2.50 hours	\$77.44	\$193.60	<p>This paperwork requirement requires each railroad to report signal failures within 15 days in accordance with the instructions printed on Form FRA F 6180.14.</p> <p>FRA estimates that it will take about 15 minutes to complete each form.</p> <p>Additionally, FRA made one minor change to the form by changing the data field from "Mail to" to "Email to." The electronic forms will be submitted to one centralized e-mailbox as opposed to mailed to several offices within FRA.</p>
235.5—Changes requiring filing of application—Signal systems	80 railroads	24 applications	10 hours	240.00 hours	\$77.44	\$18,585.60	<p>This paperwork requirement requires railroads to apply for FRA approval to discontinue or materially modify railroad signal systems.</p> <p>FRA estimates that it will take about 10 hours for each application.</p>
235.8—Relief from the	80 railroads	10 relief requests	10 hours	100.00 hours	\$77.44	\$7,744.00	<p>This paperwork requirement allows railroads to seek relief from the</p>

requirements of part 236 of this title							requirements in 49 CFR part 236. FRA estimates that it will take about 10 hours to complete each letter of application for relief.
235.20— Protests— Protestant shall file with FRA against application for relief from part 236 requirements	Railroads and public	10 protest letters	30 minutes	5.00 hours	\$77.44	\$387.20	This paperwork requirement describes the protest process, including essential information that must be included in the protest, the address for filing the protest, the time limit for filing the protest, and the requirement that a protestant requesting a public hearing explain why written statements cannot be used to explain his or her position. FRA estimates that it will take about 30 minutes to compose and send each letter.
236.110— Results of tests made in compliance with §§ 236.102–109; 236.376–387; 236.576; 236.577; 236.586–589; and 236.917(a) —Records	80 railroads	300,000 (paper records) + 636,660 (electronic records)	27 minutes (paper) + 8 minutes (electronic)	219,888.00 hours	\$59.68	\$13,122,915.84	This paperwork requirement requires that the results of signal system tests required under §§ 236.102–109; §§ 236.376–387; §§ 236.576–577; and §§ 236.586–589 be recorded on pre-printed forms provided by the railroad or by electronic means, subject to FRA approval. Note, the burden associated with § 236.917(a) is covered under OMB Control Number 2130-0553. FRA estimates that it will take about 8 minutes (electronic) and 27 minutes (paper) to record about 20 different tests that are prescribed by Part 236.

236.587— Departure Test —Record	The burden for this requirement is covered under OMB Control Number 2130-0553.						
236.590— Pneumatic apparatus— Inspection, cleaning, and results of inspection— Record	18 railroads	6,697 stencils or tags	22.50 minutes	2,511.38 hours	\$71.89	\$180,543.11	This paperwork requirement requires railroads to clean and inspect the automatic train stop, train control, or cab signal pneumatic apparatus on locomotives and then record the results of the inspection as required by § 229.29(a). FRA estimates that will take about 22.5 minutes to affix each tag or stencil.
Total ²	754 railroads	943,412 responses	N/A	222,747 hours		\$13,330,408	

13. Estimate of total annual costs to respondents.

There will be no additional cost burden to respondents beyond the burden listed in FRA’s answer to question number 12.

14. Estimate of cost to Federal Government.

To calculate the Federal Government administrative cost, the 2021 Office of Personnel Management wage rates were used. Wages were considered at the burdened wage rate by multiplying the actual wage rate by an overhead cost of 75 percent. The following table shows the estimated average annual cost to the Federal Government to review all the required documents associated with this rule.

233.5—Accidents resulting from signal failure—Telephone report to FRA						
Resources	Pay Grade	Burdened Hourly Wage Rate	Number of Hours per Call	Number of Calls per Year	Total Wages per Year	Notes

² Totals may not sum due to rounding.

Analyst	GS-13	\$56.31	1	1	\$56.31	An accident form is filled-out by FRA personnel when the call comes into FRA.
Signal and Train Control Specialist	GS-14	\$66.54	0.5	1	\$33.27	Each reported accident caused by failure of a signaling system or signal apparatus is analyzed and, if necessary, referred to the appropriate FRA district office for investigation.
Average Annual Cost to Government					\$89.58	
233.7—Signal failure reports—Form FRA F 6180.14 "False Proceed Signal Report"						
Resources	Pay Grade	Burdened Hourly Wage Rate	Number of Hours per Report	Number of Reports per Year	Total Wages per Year	Notes
Signal and Train Control Field Specialist	GS-13	\$56.31	2	10	\$1,126.20	A Field Signal and Train Control Specialist spends about two hours to review and assign each False Proceed Signal Report.
Signal and Train Control Inspector	GS-12	\$47.35	8	10	\$3,788.00	An inspector spends about eight hours investigating each report.
Signal and Train Control Specialist	GS-14	\$66.54	1	10	\$665.40	A specialist at FRA Headquarters spends about one hour to evaluate and file each report.
Average Annual Cost to Government					\$5,579.60	
235.5—Changes requiring filing of application—Signal systems						
Resources	Pay Grade	Burdened Hourly Wage Rate	Number of Hours per Application	Number of Applications per Year	Total Wages per Year	Notes
Signal and Train Control Inspector	GS-12	\$47.35	24	24	\$27,273.60	An inspector spends about 24 hours investigating each application and making a report.
Contractor		\$100.00	8	24	\$19,200.00	A contractor spends approximately 8 hours drafting a <i>Federal Register</i> notice for each application.
Signal and Train Control Field Specialist	GS-13	\$56.31	3	24	\$4,054.32	A Field Signal and Train Control Specialist spends about three hours to draft a brief to the Railroad Safety Board.

Travel			\$175.00	24	\$4,200.00	Each inspector will require approximately \$175 for travel expenses per application.
Federal Register			\$5.00	24	\$120.00	A public notice must be printed in the <i>Federal Register</i> for each application.
Average Annual Additional Costs					\$4,320.00	
Average Annual Cost to Government					\$54,847.92	
235.8—Relief from the requirements of part 236 of this title—Request to FRA						
Resources	Pay Grade	Burdened Hourly Wage Rate	Number of Hours per Application	Number of Applications per Year	Total Wages per Year	Notes
Signal and Train Control Inspector	GS-12	\$47.35	16	10	\$7,576.00	An inspector spends about 24 hours investigating each application and making a report.
Contractor		\$100.00	8	10	\$8,000.00	A contractor spends approximately 8 hours drafting a Federal Register notice for each application.
Signal and Train Control Field Specialist	GS-13	\$56.31	3	10	\$1,689.30	A Field Signal and Train Control Specialist spends about three hours to draft a brief to the Railroad Safety Board.
Travel			\$125.00	10	\$1,250.00	Each inspector will require approximately \$175 for travel expenses per application.
Federal Register			\$5.00	10	\$50.00	A public notice must be printed in the <i>Federal Register</i> for each application.
Average Annual Additional Costs					\$1,300.00	
Average Annual Cost to Government					\$18,565.30	
235.20—Protests—Protestant shall file with FRA against application for relief from part 236 requirements						
Resources	Pay Grade	Burdened Hourly Wage Rate	Number of Hours per Protest	Number of Protests per Year	Total Wages per Year	Notes
Signal and Train Control Specialist	GS-14	\$66.54	1	10	\$665.40	Each letter of protest is reviewed, and a letter of acknowledgment is sent to the protestant.
Average Annual Cost to Government					\$665.40	

236.110—Results of tests
The total cost to the Federal Government in connection with this recordkeeping activity is zero. The Government does not collect this information. FRA's Signal and Train Control Inspectors review the carrier records of inspections and tests periodically in connection with their regular enforcement activity to determine if the carrier is properly maintaining its cab signal, train stop, or train control systems.
236.590—Pneumatic apparatus—Inspection, cleaning, and results of inspection—Record
The total cost to the Federal Government in connection with this recordkeeping activity is zero. The Government does not collect this information. FRA's Signal and Train Control Inspectors review the carrier records of inspections and tests periodically in connection with their regular enforcement activity to determine if the carrier is properly maintaining its cab signal, train stop, or train control apparatus.

The total average annual cost to the Federal Government is \$79,748.

15. Explanation of program changes and adjustments.

This is an extension without change (with changes in estimates) to a current collection of information.

The current OMB inventory for this information collection shows a total burden of 444,820 hours and 1,673,437 responses, while the requesting inventory estimates a total burden of 222,747 hours and 943,412 responses. Overall, the burden for this submission has decreased by 222,073 hours and decreased by 730,025 responses. There is no change in the method of the collection. The decrease in burden is solely the result of adjustments.

As part of its review of this ICR renewal, FRA has determined some of the previous estimates were preliminary, outdated, or duplicative. The burden under § 236.110 was significantly reduced because more railroads are using electronic instead of paper form records.

CFR Section	Total Annual Responses			Total Annual Burden Hours			PRA Analyses and Estimates
	Previous Submission (Average Time Per Response)	Current Submission (Average Time Per Response)	Difference	Previous Submission	Current Submission	Difference ³	
233.5—Accidents resulting from signal	10 telephone calls	1 telephone call (30	-9 telephone calls	5 hours	1 hour	-5 hours	The reduction in burden is due to review of estimated number of

³ Totals in this column may not sum due to rounding.

failure—Telephone report to FRA	(30 minutes)	minutes)					submissions expected to be received.
233.7—Signal failure reports—Form FRA F 6180.14 "False Proceed Signal Report"	20 reports (15 minutes)	10 reports (15 minutes)	-10 reports	5 hours	3 hours	-3 hours	The reduction in burden is due to review of estimated number of submissions expected to be received.
235.5—Changes requiring filing of application—Signal systems	20 applications (10 hours)	24 applications (10 hours)	4 applications	200 hours	240 hours	40 hours	The increase in burden is due to review of estimated number of submissions expected to be received.
235.8—Relief from the requirements of part 236 of this title—Request to FRA	10 relief requests or applications (3 hours)	10 relief requests (10 hours)	0 relief requests	25 hours	100 hours	75 hours	The amount of time it takes to draft, write, and edit each application for relief increased because FRA had previously underestimated that burden.
235.20—Protests—Protestant shall file with FRA against application for relief from part 236 requirements	20 protest letters (30 minutes)	10 protest letters (30 minutes)	-10 protest letters	10 hours	5 hours	-5 hours	The reduction in burden is due to review of estimated number of submissions expected to be received.
236.110—Results of tests made in compliance with §§ 236.102–109; 236.376–387; 236.576; 236.577; 236.586–589; and 236.917(a)—Records	796,161 paper forms (27 minutes) + 140,499 electronic forms (15 minutes)	300,000 paper forms (27 minutes) + 636,660 electronic forms (8 minutes)	0	393,397 hours	219,888 hours	-173,509 hours	More railroads are using electronic instead of paper form records. Additionally, the average time per electronic record decreased because FRA had previously overestimated that burden.
236.587—Departure Test—Record	730,000 tests/records (4 minutes)	0	-730,000	48,667 hours	0	-48,667 hours	The burden for this requirement is covered under OMB Control Number 2130-0553.
236.590—Pneumatic apparatus—Inspection, cleaning, and results	6,697 stencils or tags (22.5	6,697 stencils or tags	0	2,511 hours	2,511.38 hours	0.38 hour	Adjustments due to rounding.

of inspection—Record	minutes)	(22.5 minutes)					
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There is no change in burden costs to respondents.

16. Publication of results of data collection.

There are no plans for publication involving these information collection requirements.

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.