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Railroad Communications; Notice of Proposed Rulemaking

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

49 CFR Part 220

[Docket No. RSOR–12; Notice No. 4]

RIN 2130–AB19

Railroad Communications

AGENCY: Federal Railroad Administration (FRA), DOT.

ACTION: Notice of Proposed Rulemaking (NPRM).

SUMMARY: In June 1996, FRA convened a working group comprised of rail industry and labor representatives to recommend revisions to FRA's radio standards and procedures (49 CFR part 220). The working group examined extensive data and debated how to make the regulations more flexible, thereby improving compliance, and whether to mandate radios and other forms of wireless communications to convey emergency and need to know information.

After studying these issues, the working group proposed to require wireless communications devices, including radios, for specified classifications of railroad operations and roadway workers. This part would therefore be retitled to reflect its proposed coverage of other means of wireless communications such as cellular telephones and data radio terminals. These proposed amendments, which are based upon both FRA and working group recommendations, would accommodate changing technologies, while continuing to ensure sound safety practices.

DATES: (1) Written comments must be received no later than August 25, 1997. Comments received after that date will be considered to the extent possible without incurring additional expense or delay. Requests for formal extension of the comment period must be made by August 11, 1997.

(2) Requests for a public hearing must be made by July 28, 1997. Public hearings are generally held to provide interested parties an opportunity for oral presentations of data, views, or arguments concerning the proposed standards. Any person interested in requesting a hearing should contact Ms. Renee Bridgers, Docket Clerk, at (202) 632–3198.

ADDRESSES: Written comments should be submitted to Ms. Renee Bridgers, Docket Clerk, Office of Chief Counsel, Federal Railroad Administration, 400 Seventh Street, S.W., Washington, D.C. 20590. Persons wishing notification that their comments have been received should submit a stamped, self-addressed postcard with their comments. The Docket clerk will indicate on the postcard the date on which the comments were received and will return the card to the addressee. Written comments will be available for examination, both before and after the comment period closes, during regular business hours in Room 7051 at 1120 Vermont Avenue, N.W., Washington, D.C. 20005. All hand deliveries should be made to the Vermont Avenue address.

FOR FURTHER INFORMATION CONTACT: Gene Cox, Operating Practices Specialist, Office of Safety, FRA, 400 Seventh Street S.W., Washington, D.C. 20590 (telephone: 202–632–3504); Dennis Yachechak, Operating Practices Specialist, Office of Safety, FRA, 400 Seventh Street S.W., Washington, D.C. 20590 (telephone: 202–632–3378); or Patricia V. Sun, Trial Attorney, Office of Chief Counsel, FRA, 400 Seventh Street S.W., Washington, D.C. 20590 (telephone: 202–632–3183).

SUPPLEMENTARY INFORMATION:

FRA's 1994 Report to Congress

In 1992, in section 11 of the Rail Safety Enforcement and Review Act (RSERA), Pub. L. No. 102–365, 106 Stat. 972, Congress required the Secretary of Transportation to conduct an inquiry into the Department's railroad radio standards and procedures (49 CFR part 220). As part of its inquiry, FRA conducted a field investigation of current voice communications technology and practice, held three Roundtable discussions on advanced train control technologies, published a notice of special safety inquiry (59 FR 11847; March 11, 1994), conducted a public hearing on voice radio communications, contracted with the Department of Commerce's Institute for Telecommunications Sciences for a technical evaluation of advanced train control systems, and consulted with other agencies within DOT and with staff of the Federal Communications Commission (FCC).

After completing its inquiry, FRA concluded that railroad radio communications were generally good and had steadily improved since FRA's last major study of the area in 1987. Several issues arose, however. Compliance with the standards and procedures in part 220 was poor, possibly due to the inflexibility of FRA's regulations. Employees continued to report problems with radio equipment.

In July 1994, therefore, FRA published its Report to Congress on Railroad Communications and Train Control (Report). At page xi of the Report, based on the findings of its inquiry, FRA committed to—

- Revising the Radio Standards and Procedures to make the regulations more flexible to promote improved compliance.
- Propose, as part of that rulemaking, including in the revised rule requirements that railroads provide suitable communication links between trains and dispatchers, and between locomotive engineers and ground employees, and that back-up systems be established for safety critical functions.
- Propose as a part of that rulemaking that each lead locomotive be equipped with an operative radio or suitable alternate communication equipment.
- Work with a major railroad and its employees to implement transmission of movement authorities by digital data railroad, in lieu of voice radio communications.

In the Report, FRA found that radio related problems could be divided into two types: hardware concerns (problems involving technology application) and human interface concerns (problems involving the proper utilization of that technology in accordance with FRA regulations and railroad rules). Among the significant problems reported in some dispatchers offices were the following:

Hardware Concerns

- ''Bleed-over'' from neighboring dispatcher districts, as well as from automatic wayside detectors that overrode dispatching frequencies and interrupted radio transmissions with trains.
- Two or more incompatible communications systems in use in the same dispatcher's office.
- Lack of a dedicated emergency channel at some locations. Some communications systems lacked the capability to prioritize incoming calls into regular versus emergency calls.
- Inoperative radios, despite a considerable improvement in the reliability of locomotive onboard radios.
- Unusual atmospheric or terrain conditions, rather than equipment malfunctions, which disrupted even upgraded communications systems, including mobile and cellular telephone systems.

Human Interface Concerns

- Radio frequency congestion caused by nonessential transmissions and use of other than assigned frequencies.
- Train dispatcher and field employee failure to comply with required radio standards and

procedures, including failure to transmit train orders properly, failure to transmit and repeat on-track authorities properly, failure to identify stations properly, and failure to self-identify properly.

• Under-utilization of available frequencies often created interference with radio transmissions. Yardmasters and terminal switching crews used channels intended for road train use. Channels intended exclusively for communication to dispatchers were particularly misused: road crews would use dispatching channels while adding or removing cars from their trains; maintenance of way workers would use dispatching channels to communicate with each other, even though separate channels were available for this purpose; and supervisors, administrative personnel, clerks, and even railroad taxi drivers would use dispatching channels for purposes unrelated to the safety of railroad operations.

The Railroad Safety Advisory Committee

Also in 1994, FRA established its first formal regulatory negotiation committee to address roadway worker safety. This committee successfully reached consensus conclusions and recommended a NPRM to the Administrator, persuading FRA that a more consensual approach to rulemaking would likely yield more effective, and more widely accepted, rules. Additionally, President Clinton's March 1995 Presidential Memorandum titled ''Regulatory Reinvention Initiative'' directed agencies to expand their efforts to promote consensual rulemaking. FRA therefore decided to move to a collaborative process by creating a Railroad Safety Advisory Committee (RSAC or the Committee).

RSAC is comprised of 48 representatives from 27 member organizations, including railroads, labor groups, equipment manufacturers, state government groups, public associations, and two associate non-voting representatives from Canada and Mexico. The Administrator's representative (the Associate Administrator for Safety or that person's delegate) is the Chairperson of the Committee. RSAC's purpose is to provide recommendations and advice to the Administrator on development of FRA's railroad safety regulatory program, including issuance of new regulations, review and revision of existing regulations, and identification of non-regulatory alternatives for improvement of railroad safety.

FRA has tasked RSAC with safety issues to address, among them railroad communications. To address specific tasks, RSAC formed standing or temporary subcommittees, or working groups, comprised of knowledgeable persons from the organizations represented on RSAC. The composition of each working group was approved by the full committee. The Railroad Communications Working Group (Working Group or Group) was comprised of representatives from the following organizations:

American Public Transit Association (APTA)
The American Short Line Railroad Association (ASLRA)
Association of American Railroads (AAR)
Brotherhood of Locomotive Engineers (BLE)
Brotherhood of Locomotive Engineers, American Train Dispatchers Department (ATDD)
Brotherhood of Maintenance of Way Employees (BMWE)
Brotherhood of Railroad Signalmen (BRS)
Burlington Northern Santa Fe (BNSF)
Canadian Pacific Rail System (CP)
Consolidated Rail Corporation (Conrail)
CSX Transportation, Inc. (CSX)
Federal Railroad Administration (FRA)
International Brotherhood of Electrical Workers (IBEW)
National Railroad Passenger Corporation (Amtrak)
Norfolk Southern Corporation (NS)
Railway Progress Institute (RPI)
Transportation Communications International Union (TCU)
United Transportation Union (UTU)

In its Task Statement (Task No. 96–3) to the Working Group, RSAC charged the Group to report back on the following issues:

1. All matters relating to revision of the existing standards, including data required for regulatory analysis;

2. Communications needs in support of train operations;

3. Communications needs in support of switching operations; and

4. The role of communications capability in emergency preparedness, including passenger service.

The Working Group's goal was to produce a preamble and proposed rule text recommending revisions to the Radio Standards and Procedures contained in 49 CFR Part 220, that are warranted by appropriate data and analysis. The Group's recommendations would then be sent to RSAC for review. FRA would in turn utilize the consensus recommendations of RSAC as the basis for proposed and final agency action whenever possible, consistent with applicable law and Presidential guidance. The Group could also recommend specific safety policies and procedures that the group considered relevant but inappropriate for regulatory action.

To accomplish this goal, the Working Group held ten meetings, all of which were open to the public. Summary minutes were taken, and have been placed in a docket available for inspection upon request. FRA worked in concert with the Group to develop this NPRM.

After considerable debate, the Working Group agreed to recommend that Part 220 be amended as follows. First, more communications equipment would be required on trains operated by large railroads than on those operated by small railroads. Large railroads, defined as those with 400,000 or more annual employee work hours, would be required to equip each train with a working radio in each occupied controlling locomotive and with some means of redundant working wireless communications. For small railroads, each train's communication equipment requirements would be determined by a variety of factors, including whether the train transports passengers, hauls hazardous materials, engages in joint operations with large railroads, or operates above specified speeds.

Second, for roadway workers, the working group also recommended that communication equipment requirements vary according to the size of the railroad. Large railroads would be required to equip maintenance of way equipment operating without locomotive assistance with a working radio; if multiple units are traveling together, only one of the units needs to be equipped but the operators of each unit would have communications capability with each other. Each employee designated by the employing railroad to provide on-track safety for a roadway work gang or gangs, and each lone worker would maintain immediate access to a working radio. Each maintenance of way work gang would also have to be provided intra-gang communications capability. Small railroads, in most cases, would have to provide each designated employee in charge, and each lone worker, with immediate access to working wireless communications, unless the railroad did not operate in excess of 25 miles per hour. The foregoing communication requirements would not apply to roadway work locations that are inaccessible to trains.

Third, this part would also be retitled to reflect its proposed coverage of other means of wireless communications such as cellular telephones and data radio terminals with keypads, that comply with the proposed communications redundancy requirements. The Working Group also recommended additional smaller changes, which are detailed in the section-by-section analysis portion of this NPRM.

At a meeting on March 24, 1997, RSAC voted to recommend that the Administrator issue this document as a proposed Federal regulation and continue the rulemaking procedures necessary to adopt its principles in a final rule. At the conclusion of the comment period on this proposal, FRA will work with the Working Group in developing a final rule.

The section-by-section analysis discusses all of the proposed amendments to part 220.

Scope

As part of its charter, the Group considered whether to include other types of radios currently in use in railroad operations such as data radios, digital radios and ''packet radios'' (cellular phone packet data) in part 220. The Group decided, however, that it was premature to expand application of this rule to new technologies, such as positive train control and data transmission systems, that are still undergoing research, development, and testing. Automatic train control, which is the subject of ongoing program development, will not be addressed in this rulemaking.

As proposed, part 220 would not only include procedures for voice radios (radios that utilize dedicated frequency channels for voice communications), but would also, for the first time, mandate when working radios are required to be used. FRA also proposes to expand the rule to cover non-radio means of wireless communications, such as cellular telephones and data terminals with keypads, since the Working Group decided to require such equipment as either the primary or the secondary means of communication for most types of railroad operations. The proposed rule (with the exceptions of §§ 220.37 and 220.38, discussed in the section-by-section analysis) does not contain procedures for non-radio wireless communications, however. FRA is still considering this issue, and asks for comment on whether such procedures are needed, and what they should contain.

All of these proposals are discussed in more detail below.

Proposed Effective Dates

It is currently contemplated that the final rule would be effective 120 days after publication, except for §§ 220.9 and 220.11. Sections 220.9 and 220.11 would be effective July 1, 1998 for each railroad:

(1) Providing commuter service in a metropolitan or suburban area;

(2) Providing intercity passenger service; or

(3) That has 400,000 or more annual employee work hours in 1997.

Sections 220.9 and 220.11 would be effective July 1, 1999 for each railroad that has fewer than 400,000 annual employee work hours in 1997.

Impact on Small Railroads

On June 27, 1996, the Small Business Regulatory Enforcement Act of 1996 (SBREFA) (Pub. L. 104–121), went into effect. The SBREFA requires an administrative agency, when conducting a rulemaking, to focus particular attention on the rule's potential economic impacts on small entities.

The Small Business Administration (SBA) defines ''small entity'' by industry in regulations issued pursuant to 15 U.S.C. § 632. In 13 CFR §§ 121.401–407 and § 121.601, the SBA defines a small entity as any ''railroad, line-hauling operation'' with 1,500 or fewer employees, and any ''railroad switching and terminal establishments'' with 500 or fewer employees. Temporary, full- and part-time workers are included as employees, as are employees of independent contractors in certain circumstances (see 13 CFR § 121.404 for the full list of defining criteria). The total number of employees is calculated by averaging the number of temporary, full- and part-time workers used over the preceding 12-month period.

According to SBA guidance, FRA can use a different definition of small entity for purposes of the SBREFA, so long as FRA consults with the SBA, notifies the public in its proposed rules and proposed regulatory flexibility analyses that it is not using the SBA number system, and requests comments on the definitions it uses. FRA must also provide this notification whenever, in a proposed or final rule, it certifies that the rule will have no significant impact on small entities. To delineate between small and large railroads, for purposes of this rulemaking, FRA proposes to adopt the reporting cut-off used in 49 CFR parts 217 and 219 (Railroad Operating Rules and Control of Alcohol and Drug Use, respectively) of 400,000 annual employee work hours (as determined in 1997, the year before implementation). Thus, small railroads would be those with fewer than 400,000 annual employee work hours; large railroads would be those with 400,000 or more annual employee work hours. FRA anticipates that the proposed cut-off of 400,000 annual employee work hours would cover all Class I and II railroads. ASLRA, who represents the interests of small railroads on the Working Group, agrees with FRA's proposed definition of small railroads for purposes of this rule.

Recognizing that smaller railroads have unique concerns, FRA proposes different communication equipment standards and a longer implementation period for small railroads. FRA's purpose is to allow small railroads more flexibility without compromising safety. Throughout this preamble, the rationale for FRA's proposed treatment of small railroads will be discussed in detail.

The timetable for implementation would, of course, be determined by the date of issuance of the final rule. As target dates, however, FRA proposes to allow all railroads four months after final rule publication to implement the new streamlined procedures, since the proposed amendments should not require extensive investment or retraining. FRA would phase-in implementation of radio/wireless equipment purchase, however, to allow for railroad budget cycles and the need to place orders. Small railroads would be allowed an extra year to prepare for the required capital investment.

Thus, under FRA's proposal, the final rule would be effective 120 days after publication, except for §§ 220.9 and 220.11. Sections 220.9 and 220.11 would be effective July 1, 1998 for railroads providing commuter service in a metropolitan or suburban area, railroads providing intercity passenger service (as used here and in § 220.21, this phrase allows for the expansion of passenger service by providers other than Amtrak), and railroads with 400,000 or more annual employee work hours in 1997. Sections 220.9 and 220.11 would be effective July 1, 1999 for railroads with fewer than 400,000 annual employee work hours in 1997. Carriers should not wait until the final rule becomes effective to begin preparations for implementation of the new requirements, however.

FRA invites comment on the classification system it has chosen as well as on these target implementation dates.

Communications Equipment Requirements for Trains

Railroads With 400,000 or More Annual Employee Work Hours

For large railroads, FRA proposes to mandate working radios as the primary means of communication for train crews, with some form of redundant wireless communications capability. Reliable, high-quality radio communications help ensure that movement authorities are clearly understood, that emergency assistance can be quickly requested in the event of

an accident, and that emergency and security warnings can be transmitted.

Moreover, large railroads already rely heavily on radios because of the decrease in standard train crew size. Formerly, when crews consisted of up to five employees (the engineer, conductor, head brakeman, rear brakeman, and fireman), hand/lantern signals were used for intra-crew communications. Now, the standard road train crew is commonly composed of an engineer and conductor. While the use of radios has led to greater operating efficiency, today's smaller crews rely more heavily on voice radio for the conduct of switching operations.

Crews also need to have immediate communications capability to handle obstructions, derailments, injuries, and other unanticipated events. The withdrawal of train order operators and other communications media from the rights of way, together with the reductions in train crew size and lengthening of crew districts, makes radio the primary means of emergency communication.

Based on a recent AAR survey, large railroads already provide most of their lead locomotives with all-channel radios that allow communications between trains and the dispatching center. Most railroads also already have policies that require the train's radio to be operational at the time of departure.

The Group therefore recommended to require that the controlling locomotive in a train be equipped with a working radio upon departure from a terminal. The controlling locomotive must be equipped with a working radio only when the locomotive is occupied by an assigned train crew and the train is involved in railroad operations. Clearly, if a locomotive is unoccupied, there is no one who needs to communicate from it.

To address the possibility that a radio may fail en route, the Working Group recommended that each train also have a form of working wireless communications upon departure from a terminal. If the radio in the controlling locomotive should fail en route, a standby radio, a radio on another locomotive in the consist (e.g., a push-pull passenger train), or another form of wireless communication will be available as a backup until the primary radio can be either repaired or replaced. To ensure that a required communication device is working, the device must be tested prior to the commencement of a work assignment, a removed from service if it is found not be functioning as intended. The Working Group decided that wireless communications must be able to reach the railroad's control center or an emergency responder, since their purpose is mainly emergency notification.

Railroads With Fewer Than 400,000 Annual Employee Work Hours

Small railroads usually operate short trains, over short distances, at slow speeds. They are often located in industrial parks or other clearly defined areas where train crews are able to maintain constant visual contact during railroad operations. For many of these railroads (unlike larger ones), equipping train crews with a working radio and some means of redundancy would entail not just a capital investment in equipment, but also the hiring of dispatchers and the building of base units. Many small railroads already use cellular telephones, not radios, as their primary means of communication.

When operating passenger trains, however, small railroads face the same heightened safety considerations as larger ones. For example, if a derailment or other emergency occurred, it is crucial that the crew and dispatcher be able to communicate with each other. Therefore, small railroads would also be required to equip their passenger trains with a working radio on each occupied controlling locomotive, and some form of communications redundancy.

For freight trains, requirements would be determined by two factors: whether the train operates at greater than 25 miles per hour, and whether the train engages in joint operations on the tracks of a large railroad. The varying requirements for freight trains operated by small railroads will be discussed in more detail in the analysis of § 220.9.

Communications Equipment Requirements for Roadway Workers

On December 16, 1996, FRA published a final rule on Roadway Worker Safety (61 FR 65959). That rule was the product of a negotiated rulemaking involving several of the same parties participating in the Working Group. The Roadway Worker Safety rule will bring about significant improvements in the protection afforded workers conducting duties on or adjacent to live track. That rule makes careful distinctions in the type of protection that must be afforded under a variety of common circumstances, and responsibility is placed jointly on railroad supervision and workers to ensure that proper protection is requested and afforded. The Working Group noted that provision of good communications capability could encourage compliance with these requirements while facilitating provision of the required protection. This factor, plus the ability of roadway workers to quickly apprise the control center or approaching trains of unsafe conditions along the right of way, at a highway-rail crossing, or in a train inspected for dragging equipment and other problems as it ''rolled by'' a work site, led the Working Group to recommend the communication requirements contained in this proposal.

Railroads With 400,000 or More Annual Employee Work Hours

The draft language in § 220.11 requires railroads to determine who should have access to a working radio by employee function. After considerable debate, the Working Group concluded that two categories of roadway workers, the Designated Employee in Charge (as defined in Subpart C of 49 CFR part 214, Railroad Workplace Safety) of a roadway work group, and the lone worker, must maintain immediate access to working radio. The term ''maintain immediate access'' is discussed below in the section dealing with communication requirements for roadway workers of railroad with fewer than 400,000 annual employee work hours.

A designated Employee in Charge and a lone worker have analogous communications need. In each case, the employee must be qualified on the physical characteristics of his or her assigned territory, and in each case, the employee is responsible for providing protection, with the difference that the Designated Employee in Charge is responsible for an entire roadway gang, while the lone worker is responsible only for him or herself. (Not every roadway worker who works alone is considered a lone worker, however. Under § 214.7 of FRA's regulations on Roadway Workplace Safety, a lone worker is defined as an individual roadway worker who is not being afforded on-track safety by another roadway worker, who is not a member of a roadway work gang, and who is not engaged in a common task with another roadway worker.)

Maintenance of way equipment traveling as a train between work locations would also have to be equipped with at least one working radio. Thus, when several maintenance of way units move in tandem, at least one of the units would have the capacity to communicate with the control center in the event of an emergency. If several maintenance of way units are physically separated, only one unit would have to be equipped with a working radio, provided that all of the units are under the control of the same employee. The

operators of each additional piece of maintenance of way equipment would be required to have wireless communications capability with each other.

Large railroads would also have to provide each maintenance of way gang with intra-gang wireless communications capability upon the gang's arrival at the work site to enable gang workers to communicate movement authorities and other need to know information to each other.

Railroads With Fewer Than 400,000 Annual Employee Work Hours

In the case of small railroads, the Designated Employee in Charge (as defined in subpart C of 49 CFR part 214, Railroad Workplace Safety) of a roadway work group, and the lone worker, must maintain either immediate access to a working radio or working wireless communications. FRA would allow small railroads an alternative to providing immediate access to a working radio, since railroads operate at a lower volume, often over single track, in limited territories, where the greater broadcast capability of a radio is unnecessary. In these circumstances, employees usually know where each other is located.

By ''maintain immediate access,'' FRA intends that the radio or wireless communication equipment be either on the employee's person, or for the radio, sufficiently close to the employee to allow the employee to make a transmission and receive radio transmissions. As a rule of reason, this means that a required communications device must be both supplied by the railroad and used by the employee. To maintain immediate access, the employee must stay within easy hearing distance of the communications device so that he or she can continue to monitor transmissions. For example, a signal maintainer climbing a signal tower could maintain immediate access by carrying a portable radio, or by staying within easy hearing distance of the radio speaker mounted on his or her vehicle.

There are three exceptions, however, where FRA believes that the risk presented by slow, infrequent trains would be so minimal that no means of communication would be required. No communication equipment would be required if a small railroad does not operate trains in excess of 25 miles per hour. For all railroads, both large and small, no communication equipment would be required if the work location of the roadway work gang or lone worker is physically inaccessible to trains, or has no through or adjacent traffic when roadway workers are present.

Non-radio Wireless Communications Procedures

As mentioned above, due to time restrictions, the Group did not fully debate the issue of whether to propose procedures for the use of non-radio wireless communications that would parallel the radio procedures in Subpart B of this part. Instead, the Group decided to reserve the scope of this issue for the final rule. FRA asks for comment on whether such procedures are necessary (e.g., is ordinary telephone etiquette sufficient for cellular telephones), and on the following questions posed by the Group.

If FRA decides to adopt non-radio wireless procedures, should they be incorporated into part 220 or implemented in a separate rule? With non-radio wireless communications, do the same opportunities for misunderstanding exist as with radio? How would FRA enforce non-radio wireless procedures (e.g., ''over and out'' with cellular telephones) since usually only one party to the conversation can be overheard? Should radio procedures apply to the transmission of mandatory directives by wireless communications? Should there be wireless communications procedures to handle en route failure? Some railroads already address non-radio wireless procedures in their operating rules.

Reframing of Radio Frequencies

The Federal Communications Commission (FCC) regulates the radio frequencies used by the railroad industry. FRA will continue to monitor FCC actions dealing with the bandwidth of channels utilized by railroads, and many propose modifications to this part to reflect FCC decisions.

Emergency Order No. 20

On February 22, 1996, FRA issued Emergency Order (EO) No. 20, notice no. 1 (61 FR 6876), which required commuter and intercity passenger railroads to develop interim safety plans and improved operating rules designed to ensure the safety of passengers in the leading car of a train. In EO No. 20, notice no. 2, published on March 5, 1996 (61 FR 8703), FRA modified the signal calling provision in notice no. 1. Essentially, during specified types of push-pull and multiple unit operations, designated crew members must orally communicate wayside signal aspects to the crew in the controlling locomotive. Notice no. 2 also states that ''[i]f necessary due to a radio equipment failure, alternative means shall be established by the operating crew (e.g., via intercom, cellular telephone etc.) to accomplish this procedure.''

While the crew communication requirements in EO No. 20 affect and are affected by this NPRM's proposed revisions to part 220, FRA will not address this issue here. Instead, FRA will discuss crew communications in its second NPRM on passenger equipment standards, which is anticipated to be issued in 1998.

Section by Section Analysis

Subpart A—General

Section 220.1 Scope

As explained earlier in this preamble, FRA proposes to expand the scope of this part to allow for newer forms of technology that are already in use. For this reason, FRA proposes to change the phrase ''radio communications'' to ''wireless communications'' and to add the definitions of ''working radio'' and ''working wireless communications'' to this part.

Section 220.2 Preemptive Effect

FRA proposes to add a preemption section, which would parallel the preemption language in 49 U.S.C. § 20166.

Section 220.3 Application

This section would remain unchanged.

Section 220.5 Definitions

Throughout the rule, FRA proposes to substitute ''locomotive'' for ''engine'' wherever that term appears. The term ''locomotive'' is more encompassing, since it also include cab cars and MU units.

The following is an explanation of each definition that FRA proposes to add or amend.

Control center. In the past, most railroads issued instructions from numerous dispatching offices distributed throughout their territory. Today, radio communications and other advanced technologies have enabled most railroads to centralize management of their operations in fewer locations. By control center, FRA means the locations from which a railroad issues instructions governing its operations.

Employee. The Rail Safety Enforcement and Review Act (RSERA) (1992) clarified that FRA's safety jurisdiction extends to all entities, including contractors and their employees, that may violate the railroad safety laws. The amended definition of employee would include, besides contractors and their employees, and

individuals authorized by railroads who use radios, or any other form of wireless communications in connection with railroad operations.

Joint operations. This term refers to operations by a small railroad on the tracks of a large railroad (one with 400,000 or more annual employee work hours). Under § 220.9, a train operated by a small railroad that would otherwise be exempt from meeting the communication equipment standards would be required to have either a working radio or working wireless communications when engaged in certain types of joint operations. The proposed definition allows an exclusion for interchange operations.

Lone worker. For consistency, FRA proposes to incorporate this definition from its recently published final rule on Roadway Worker Protection [61 FR 65959, December 16, 1996].

Mandatory directive. Throughout part 220, FRA proposes to replace the term ''train order'' with ''mandatory directive.'' A mandatory directive carries the same authority as the traditional train order, but also includes speed restrictions and other types of movement authority such as direct train control authorities and track warrants.

Railroad operation. The proposed definition would substitute ''locomotive'' for ''engine'' to be consistent with the terminology in the remainder of the rule, and would make an editorial change from ''single'' to ''singly.''

Roadway worker. For consistency, FRA would also incorporate this definition from the recently published final rule on Roadway Worker Protection.

Train. Under this definition, any railroad operation subject to the air brake testing requirements of 49 CFR part 232 would be considered a train for purposes of this rule. In proposing this definition, the Working Group sought to exclude switching operations, and the assembly or disassembly of rail cars within a railroad yard, both of which do not require an air test. However, the definition does include transfer trains, particularly long-distance yard-to-yard movements.

Working radio. By working radio, FRA means one with an adequate power source, free of mechanical malfunctions, that can both transmit and receive communications to and from the railroad's control center from any location within the rail system (through repeater stations, if necessary). In the case of joint operations on another railroad, the radio must also be able to reach the control center of the host railroad.

A radio satisfies this definition even if *temporary* fluctuations or interference from weather or terrain occur. (It should be noted, however, that under § 220.45 of this part, any communications which are not fully understood or completed may not be acted upon and must be treated as if not sent). Railroads must maintain the communications capability to broadcast over every territory on which they operate, however.

Some members of the Working Group have suggested that railroads be permitted to define coverage limits that exclude certain territories, such as lightly used branch lines in areas uniformly affected by extreme topography, where the cost of placing repeater stations might be significant in relation to the benefits afforded. FRA recognizes that this issue deserves further consideration and requests comment regarding whether the final rule should contain language permitting exclusions to ''coverage.'' If so, under what specific conditions might this be appropriate? FRA also notes that railroads may petition for waivers of these proposed requirements in accordance with the procedures contained in 49 CFR part 211 (FRA's Rules of practice); however, FRA would prefer for this issue to be resolved within the text of the final rule.

Working wireless communications. As discussed above, FRA proposes to require communications redundancy to compensate for failed radio communications due to interference, equipment failure, transmission difficulties and other problems which will occur even with the most advanced equipment.

Section 220.7 Penalty

As explained above, the RSERA expanded coverage of FRA's regulations to include contractors and their employees. FRA proposes to amend this section to make clear that this part applies not only to railroads but also to any other entity that may violate this part, including independent contractors who provide goods and services to railroads and the employees of such contractors. In other words, any person who is authorized by a railroad to use its wireless communications facilities must comply with part 220 procedures, regardless of whether the person has a direct employment relationship with the railroad.

FRA would also amend this section to raise the minimum penalty for violations of this part from $250 to $500, as already required by the RSERA.

Section 220.9 Requirements for Trains

Paragraph (a)

As discussed above in the section analyzing FRA's proposed communications equipment requirements for trains, large railroads would be required to equip all trains with a working radio in the controlling locomotive and with a back-up means of wireless communications. This requirement would apply to both freight and passenger operations.

Paragraph (b)

As discussed above, small railroads would have to meet the same heightened communication equipment standards as large railroads when operating passenger trains. Thus *all* passenger trains, regardless of the size of the operating railroad, would have to be equipped with both a working radio in the controlling locomotive and with redundant working wireless communication equipment.

For freight trains, the communication requirements are determined by two factors: train operating speed, and extent of joint operations. If a freight train operates at greater than 25 miles per hour, or engages in joint operations on track where the maximum authorized speed for freight trains is greater than 25 miles per hour, the train must be equipped with a working radio in the controlling locomotive. Similarly, a freight train engaged in joint operations on track in proximity to track where the maximum authorized speed for passenger trains is greater than 40 miles per hour must also be equipped with a working radio in the controlling locomotive. The proposed cutoff in subparagraph (b)(2)(B), ''within 30 feet measured between track center lines of another track,'' is one of the criteria used to determine the extent of FRA's jurisdiction over tourist and historic railroads.

In the conditions described above, FRA would require the crew of the freight train to have a working radio to enable them to communicate with the host railroad's control center and the other trains on the host railroad. For example, if a freight train went into emergency or a hazardous materials release occurred, the crew of the freight train could broadcast a warning to the crew of a nearby passenger train, in addition to the control center.

A train that engaged in joint operations on track where the maximum authorized speed for freight trains is 25 miles per hour or less would be required to have working wireless communications, but not a working radio in the controlling locomotive.

Finally, a train that did not transport passengers or engage in joint operations, would also be required to have working wireless communications if it transported hazardous materials. *No* communication equipment would be required for a train that did not transport passengers or hazardous material, and did not engage in joint operations or operate at greater than 25 miles per hour.

Section 220.11 Requirements for Roadway Workers

Paragraph (a)

As discussed above, a small railroad would not need to provide communications equipment if its trains do not operate in excess of 25 miles per hour. In addition, in the section analyzing FRA's proposed communications equipment requirements for roadway workers, large railroads would have to provide a working radio to maintenance of way equipment moving to or from a work location, or between multiple work locations on the same day. The radio would enable the roadway work gang to contact the control center when traveling. A unit of equipment traveling alone would also need to be radio equipped.

Paragraph (b)

As discussed above, large railroads would have to provide each Designated Employee in Charge, and each lone worker, with immediate access to a working radio. Small railroads would have the option of providing immediate access to either a working radio or working wireless communications.

Paragraph (c)

As discussed above, a railroad, regardless of size, would not be required to provide communication equipment whenever the work location of the roadway work gang or lone worker is physically inaccessible to trains, or has no through or adjacent traffic when roadway workers are present.

Section 220.13 Reporting Emergencies

In this new section, FRA seeks to emphasize that an employee's first priority, in the event of an emergency, is to notify the railroad using the quickest means of communications available. An employee should notify the proper authorities before undertaking other forms of emergency response, such as medical treatment or evacuation, to ensure that properly trained and equipped personnel respond to the scene as quickly as possible. In reporting emergencies, the employee is to follow the procedures in § 220.47 of this part when using a radio, or the procedures specified in the railroad's time table, or timetable special instructions when using another means of wireless communications. Operating rules, timetables, and timetable special instructions are required to be filed under § 217.7 of 49 CFR part 217 (Railroad Operating Rules).

Because this section includes language originally in § 220.47(a), which also covers emergency procedures, § 220.47 would now only include the requirement that an initial radio transmission begin with the word ''emergency'' repeated 3 times.

Subpart B—Radio and Wireless Communication Procedures

FRA proposes to retitle Subpart B to make clear that the definition for working wireless communications, like that for working radio, requires that communications equipment be tested and in working condition before a work assignment commences. The title to this Subpart would be changed to reflect that wireless communication equipment is covered by §§ 220.37 and 220.38; section titles in this Subpart that apply only to radio operations have accordingly also been retitled to reflect that fact.

Section 220.21 Railroad Operating Rules; Radio Communications: Recordkeeping

FRA proposes to delete the implementation dates from this section since these references are no longer necessary.

Paragraph (b)

The proposed changes to paragraph (b) are strictly editorial. In paragraph (b)(1), as explained above in the discussion on effective dates, the phrase ''each railroad providing intercity rail service'' allows for future expansion of passenger service by providers other than Amtrak.

Paragraph (c)

This paragraph makes clear that FRA would retain the carrier classifications (Class I, II, and III railroads) originally created by the former Interstate Commerce Commission (ICC). The Department's Surface Transportation Board, which succeeded the ICC, has not changed these classifications.

Section 220.23 Publication of Radio Information

The proposed changes are all editorial.

Section 220.25 Instruction and Operational Testing of Employees

Other than one editorial amendment (from ''[e]ach employee who is authorized * * *'' to [e]ach employee who a railroad authorizes * * *''), the only proposed change in this section is the addition of paragraph (c).

Paragraph (c)

This paragraph would require each railroad to conduct testing on the procedures in this part in accordance with the written program of operational tests and inspections required to be filed under § 217.9 (Railroad Operating Rules, 49 CFR Part 217). Railroads would have to test employees on radio procedures in conjunction with the already required periodic operating rules tests.

Section 220.27 Identification

Paragraph (a)

FRA proposes to delete paragraph (a)(3), which required an employee (usually the dispatcher) to identify the location of the wayside, base, or yard station from which the employee is broadcasting. This requirement is now superfluous for those railroads that use central or regional dispatching, with a single station for each dispatching system. Where this is the case, each dispatching station has a unique designation, so that stating that designation would be sufficient identification. FRA hopes that streamlining the identification requirements will help to reduce radio congestion. If a station does not have a unique designation, both the station's name and location should continue to be stated.

The other proposed change would merely combine paragraphs (a)(2) and (a)(3) into one paragraph.

Paragraph (b)

As explained above, FRA proposes to substitute ''locomotive'' for ''engine'' wherever it appears in the rule. FRA would also delete ''pakset'' and ''caboose'' since these are no longer widely used terms.

Section 220.29 Statement of Letters and Numbers in Radio Communications

This section would be retitled to limit its applicability to radio communications.

Paragraph (b)

FRA proposes to delete the word ''precision'' as unnecessary, and to make other editorial changes such as suggesting a station name as an example of what must be spelled for clarity.

Paragraph (c)

This paragraph would be amended to provide that a decimal point could also be indicated by the use of the words ''dot'', or ''point,'' in addition to ''decimal''.

Section 220.31 Initiating a Radio Transmission

This section would be retitled to limit its applicability to radio communications.

The only proposed changes to the section itself would be to make it gender-neutral, by substituting ''the employee'' for ''he'' or ''his.'' Similar changes have been made throughout the proposed rule text.

At one Working Group meeting, it was noted that the current regulation differs from practice in other industries because it requires the caller to identify him or herself before identifying the intended receiver. In the aviation industry, for example, the reverse order is followed, with the caller first identifying who he or she seeks to contact, and then identifying him or herself. The Group debated whether adopting this reverse order of identification could reduce dispatcher fatigue and requests for repeats by allowing dispatchers to listen specifically for transmissions that are addressed to the control center. The Group elected to make no changes; FRA invites comment on whether reversing the current identification order would improve the quality of railroad communications.

Section 220.33 Receiving a Radio Transmission

This section would be retitled to limit its applicability to radio communications.

Paragraph (a)

The only proposed change would clarify that an employee need not monitor the radio when other immediate duties intervene, but must resume monitoring once those circumstances are over.

Paragraphs (b) and (c)

FRA would delete paragraph (b) since it would be made redundant by proposed paragraph (a). Current paragraph (c) would be redesignated as paragraph (b).

Unless required by a railroad's operating rules, FRA does not propose to require a railroad employee to copy the following instructions when in signaled territory: permission to pass a stop signal, occupy main track in CTC territory or to move with the current of traffic, make a reverse movement within the limits of the same block, and permission for foul time. This is because the instructions are advisory in nature, and that, in these instances the train either already possesses authority to occupy the main track by signal indication, or the operating rules themselves convey this authority. Similarly, information such as trespassers or debris on track ahead usually involve imminent conditions that may change by the time the next train passes by, and are also advisory in nature. While these short-term instructions must be repeated, they need not be copied since they will soon be acted upon. In contrast, in non-signaled territory, occupancy of, or fouling a main track typically requires some form of initial movement authority from the train dispatcher or control operator, and, therefore, must be in writing.

On the other hand, copying is necessary when an order will be acted upon later, or is of a long-term nature. In such instances, FRA believes that an employee must have a written reference to avoid the risk that the employee may later rely on a faulty recollection of the instruction.

Paragraph (b)(1)

FRA would continue to allow communications involving yard switching operations to be transmitted without having to be repeated back to the transmitting party. Switching that involves occupying or potentially fouling main track may present different kinds of risks than switching in a yard environment. Yard channels are more subject to overcrowding because of their volume of operations.

Some members of the Working Group would prefer to omit the requirement to repeat communications in all circumstances where switching is being performed. FRA requests further comment on this issue and will ensure full reconsideration in the Working Group prior to publication of a final rule.

Section 220.35 Ending a Radio Transmission

This section would be retitled to limit its applicability to radio communications.

In its 1994 Report, FRA noted that this section has been widely disregarded, and expressed doubts about whether continuing to enforce this section would be the best use of agency resources. For this reason, at one of the Working Group meetings, FRA suggested making ''over and out'' a recommended practice instead of a required one. In FRA's experience, when railroads rigidly enforce ''over and out'', superfluous conversations disappear and radio discipline improves. Nevertheless, this section remains the least complied with in part 220, and there is potential individual liability for both railroad officers and employees who fail to comply with this requirement.

As the Working Group deliberations closed, there was disagreement regarding the appropriate treatment of this provision. FRA has retained the existing provision in the rule text as proposed in this NPRM with the expectation that the matter can be resolved in the Working Group at the final rule stage.

FRA seeks comment on this issue. Should FRA enforce this section against individuals? Would agency resources be better spent ensuring that the proper parties act on a transmission? If so, how could this be done? Are there alternate, equally effective ways to indicate the end of a transmission? Is this procedure necessary when the dispatcher has achieved a one-to-one identification with a particular employee? If retained, should this requirement be enforced in terminals?

Section 220.37 Testing Radio and Wireless Communication Equipment

As discussed above, this section would be retitled and expanded in scope to cover testing of all the communication equipment required by §§ 220.9 and 220.11.

Paragraph (a)

By substituting ''as soon as practicable'' for ''at least once during each tour of duty,'' FRA proposes to require the engineer and conductor to perform a voice test at the start of their tour. Currently, this section allows a crew to perform a voice test at any point during their trip. Revising this section would prevent the crew from delaying the test, e.g., not performing a voice test until right before the first time the crew uses the radio. A crew should not wait until they are several hours into their trip before checking to see whether the radio works properly or whether it needs to be replaced.

FRA would also delete the phrase ''outside yard limits'' to ensure that a voice test is conducted even when a train does not leave yard limits, and the phrase ''where the train is made up'' to make clear that at each intermediate crew change point, the new crew must perform a voice test at the start of their tour.

Paragraphs (b) and (c)

Existing paragraphs (b) and (c) would be deleted, since these requirements

would be covered in proposed § 220.38, discussed below. A new paragraph (b) would be added requiring that the test of a radio shall consist of voice transmissions with another radio. The employee receiving the transmission shall advise the employee conducting the test of the clarity of the transmission.

FRA has not specified the testing procedures that must be followed for other forms of wireless communications. FRA seeks comments on whether the rule should specify such testing procedures and, if so, what these procedures should contain.

Section 220.38 Communication Equipment Failure

This section is new and covers the equipment failure of all the communication equipment required by §§ 220.9 and 220.11.

Paragraph (a)

In the current rule, only § 220.41, which merely requires that the employee notify the proper authorities, addresses the issue of radio failure. In addition to notification, this proposed section would also require that inoperative radios and other mandatory wireless communication equipment be removed from service as soon as they are discovered.

Paragraph (b)

If a radio fails en route, the controlling locomotive could proceed until the earlier of, the next calendar day inspection or the nearest repair point where the equipment could be repaired or replaced. The movements allowed for radio repair in paragraph (b) mirror those found in 49 CFR § 229.9(b), which specifies the movements allowed for repair of non-complying locomotives. Members of the working group asked that comment be requested regarding flexibility for designation of repair points. For instance, in order to encourage aggressive action to replace failed radios, should the rule expressly provide that placement of one or more radios on locomotives at a particular location does not constitute that location as a ''repair point''?

Section 220.39 Continuous Radio Monitoring

This section would be retitled to limit its applicability to radio communications. The intent of the other proposed changes is strictly editorial. This section would continue to be written in terms of the radio, not the employee, to make clear that it requires the radio to be constantly monitored, but does not require every employee to monitor. Only the employee who is custodian of the radio would be responsible for ensuring monitoring.

Section 220.41 Notification on Failure of Radio

Proposed § 220.38, discussed above, which also addresses radio and equipment failures, would make this section redundant. FRA would therefore remove and reserve this section.

Section 220.43 Radio Communications Consistent With Federal Regulations and Railroad Operating Rules

This section would be retitled to limit its applicability to radio communications, and amended to make an editorial change (''must'' to ''shall''). As reworded, this section would make explicit what had previously been implicit, by requiring a radio communication to comply with this part and with FCC regulations, in addition to the railroad's operating rules.

Section 220.45 Radio Communications Shall be Complete

This section would be retitled to limit its applicability to radio communications, but would otherwise remain unchanged.

Section 220.47 Emergency Radio Transmissions

This section would also be retitled to limit its applicability to radio communications. As mentioned above in the discussion on proposed § 220.13, § 220.13(a) would include the language originally in § 220.47(a). FRA would retain the requirement that an initial transmission begin with ''emergency'' repeated 3 times, however (subsequent transmissions do not have to begin this way). In this section, FRA therefore proposes to delete paragraph (a). Additionally, FRA would change the word ''transmission'' to ''communication,'' to emphasize that the emergency frequency or channel must be kept clear for the duration of the *two-way* conversation between the reporting employee and the emergency responder.

Section 220.49 Radio Communication Used in Shoving, Backing or Pushing Movements

This section would be retitled to limit its applicability to radio communications. In the title of this section, the term ''shoving'' would be substituted for ''switching.'' The proposed title would make clear that this section applies to back-up moves only. The term ''switching'' is irrelevant, since this section also applies when road trains make back-up moves.

The phrase ''in lieu of hands signals'' would be deleted to emphasize that this section applies *whenever* a radio is used. FRA also proposes to substitute ''continual'' for ''continuous,'' since the former implies a succession of occurrences that are very close together, with only small breaks between them; while the latter implies an unbroken succession of occurrences. This editorial change would clarify that employees are not required to converse ceaselessly when using radio communication to make a shoving, backing or pushing movement.

Section 220.51 Radio Communications and Signal Indications

This section would be retitled to limit its applicability to radio communications. In paragraph (b), FRA proposes to delete the phrase ''in automatic block territory'' to emphasize that the prohibition against conveying signal indications applies to all types of territory.

Section 220.61 Transmission of Mandatory Directives

In this section, FRA proposes to substitute ''mandatory directive'' for ''train order'' wherever that term appeared. Also, instead of breaking this section out into a separate subpart (Subpart C), FRA would integrate this section, which addresses the transmission of mandatory directives by radio, into Subpart B, which covers all radio procedures. Subpart C would thus be reserved for non-radio wireless procedures, if FRA decides to adopt them.

Other than the changes discussed below, all other proposed amendments are intended strictly to modernize and streamline this section.

Paragraph (5)(i)

By inserting the word ''each'' and removing the word ''both,'' FRA intends to clarify that it is *not* sufficient for the engineer and conductor to share a copy of the mandatory directive, even if they have both read it. This section requires, and has *always* required (contrary to some railroad interpretations), the conductor and the engineer to have their own individual copies. Both, in turn, are then responsible for ensuring that all members of the crew responsible for operation of the train read and understand the directive before it is acted upon. Personnel on passenger and commuter trains who are not directly involved in the operation of a train, such as lounge care attendants and ticket takers, are not required to read and understand each mandatory directive.

The Working Group recommended, and the proposed rule provides, that mandatory directives that have been fulfilled or canceled be marked with an ''X'' or in accordance with the railroad's operating rules. Compliance with this requirement will ensure that employees do not later become confused as to which mandatory directives are applicable at any point in time.

For both train crews (paragraph 5(i)) and roadway gangs (paragraph 5(ii)), FRA suggested that the Working Group consider whether to require each employee responsible for executing a mandatory directive to retain a copy of that directive until the end of their work assignment. After investigating a 1996 fatal head-on collision at Smithfield, West Virginia, FRA issued a Safety Bulletin (61 FR 64191) advising that railroads require train crews to retain copies of mandatory directives for seven work days after the completion of the work assignment. This is already the practice on NORAC (the Northeast Operating Rules Advisory Committee) member railroads. Retention of mandatory directives for the duration of the work assignment would also enable both railroads and FRA to enforce compliance with the copying requirement. Moreover, since copies of mandatory directives are already being generated, retention for the duration of the assignment would not impose any additional paperwork burden on the industry.

The Working Group did not have time to explore the retention issue fully, however. FRA has therefore not required in the proposed rule that any employee retain a mandatory directive beyond the time it has been fulfilled or canceled. FRA solicits comment on the value of retention. Could retention of copies of mandatory directives lead to employee confusion as to which directives were outstanding and which still needed to be acted upon, or would the requirement to mark fulfilled directives ensure that employees acted upon the correct directive? This issue will be revisited thoroughly by the Working Group in its consideration of the final rule.

Paragraph (5)(ii)

For roadway gangs, FRA proposes to require that the mandatory directive be ''acknowledged,'' instead of ''read and understood,'' by those employees who need to know. Often, the employee in charge is the only member of the roadway gang who has been qualified on the physical characteristics of the area assigned to the gang. At the beginning of the assignment, the designated employee in charge should provide a detailed job briefing notifying the other roadway workers of the gang's movement limitations, authorities, and other relevant information. Mandatory directives which have been fulfilled or canceled would be marked with an X or in accordance with the railroad's operating rules. Commenters are requested to address whether the mandatory directives should be retained until the end of their work assignment (see discussion under paragraph (5)(i), above).

Regulatory Impact

Executive Order 12866 and DOT Regulatory Policies and Procedures

This rule has been evaluated in accordance with existing policies and procedures. It is believed that the rule will be determined to be non-significant under both Executive Order 12866 and DOT policies and procedures (44 FR 11034; February 26, 1979). FRA has prepared and placed in the docket a regulatory analysis addressing the economic impact of the proposed rule. Document inspection and copying facilities are available at 1120 Vermont Avenue, 7th Floor, Washington, D.C. Photocopies may also be obtained by submitting a written request to the FRA Docket Clerk at Office of Chief Counsel, Federal Railroad Administration, 400 Seventh Street, SW., Washington, DC 20590.

As part of the regulatory impact analysis FRA has assessed quantitative measurements of costs and benefits expected from the adoption of the proposed rule. Over a twenty year period, the Net Present Value (NPV) of the estimated quantifiable societal benefits is $102.8 million, and the NPV of the estimated costs is $39.9 million.

The major costs anticipated from adopting this proposed rule include: the installation of radios for locomotives; the purchase of cellular telephones or other form of wireless communication for locomotives of smaller railroads operating trains in situations with decreased risk; usage fees for cellular telephones; the installation of radios in some maintenance-of-way equipment; the purchase of additional portable radios for roadway work groups and lone-workers; training on radio procedures; maintenance for locomotive and portable radios; and replacement cellular telephones.

The major benefits anticipated from adopting this proposed rule include: reduction of injuries and fatalities of roadway workers; reduced trespasser fatalities; reduction of railroad worker injury severity from a quicker emergency response; reduced grade crossing accidents; and reduced railroad accidents that were caused by the improper usage of radios.

Additionally, FRA anticipates other qualitative benefits accruing from this proposed rule which are not factored into the quantified analysis. These include increased efficiency within the industry, and a reduction in hazardous material spills.

Regulatory Flexibility Act

The Regulatory Flexibility Act of 1980 (5 U.S.C. 601 *et seq.*) requires a review of final rules to assess their impact on small entities. FRA's assessment of small entity impact can be found in Appendix B of the NPRM's Regulatory Impact Analysis, located in the docket.

After consultation with the Office of Advocacy of the SBA, FRA will use the delineation of less than 400,000 annual employee hours as being representative of small entities. This grouping is one that FRA has used in the past (in 49 CFR parts 217 and 219) to alleviate reporting requirements. Typically, FRA uses the Surface Transportation Board's (STB) revenue-based classification of Class III railroads as being representative of small entities. Many Class III railroads have fewer than 400,000 annual employee hours. Using 400,000 annual employee hours as the line between small and non-small entities provides advantages over the Class III distinction. FRA already maintains a database containing information on which railroads fall below this line. Additionally, this delineation does not provide the same automatic exemption as the Class III distinction does for switching and terminal railroads. By using this grouping for small railroads, FRA is capturing most small entities that would be defined by the SBA as small businesses.

FRA certifies that this rule is expected to have a significant economic impact on a number of small entities. There are no small government jurisdictions affected by this regulation. Approximately 450 small entities will be impacted. However, the actual burden on most of these railroads will vary because of their different operating characteristics.

Entities that are not subject to this rule include railroads that do not operate on the ''general railroad system of transportation'' due to FRA's current exercise of its jurisdiction (*See* 49 CFR part 209, Appendix A). FRA's jurisdictional approach greatly reduces the number of tourist, scenic, historic, and excursion railroads that are subject to this rule and its associated burdens. FRA estimates that approximately 180 small entities will be exempted from the

proposed requirements of this regulation since they do not operate on the general system of transportation.

The communication requirements pertaining to locomotives, as set forth in § 220.9 of this rule have been designed to minimize the impact on small railroads. While large railroads are required to have a working radio and wireless communication redundancy in every train, small railroads are only required to comply with this standard for trains used to transport passengers. A radio is required on a freight train operated by a small railroad only when the train operates at greater than 25 miles per hour or engages in joint operations on a large railroad where either the maximum authorized speed for freight trains exceeds 25 miles per hour on the track being used, or the track being used is adjacent to and within 30 feet of another track on which the maximum speed for passenger trains exceeds 40 miles per hour. Any form of wireless communication device can be used on a freight train operated by a small railroad when the train is engaged in joint operations with a large railroad and the maximum authorized speed on the track being used is 25 miles per hour or less.

In addition, a wireless communications device is required when a freight train of a small railroad transports hazardous material that is required to be placarded under 49 CFR part 172 and does not otherwise fit into one of the above mentioned categories requiring other types of communications equipment. The flexibility afforded to small railroads with these alternatives will lessen the costs imposed on these railroads.

The communications requirements pertaining to roadway workers, as set forth in § 220.11 of this rule, have been designed to minimize the impact on small railroads. The subsection (a) requirement of equipping maintenance of way equipment with communications capability upon arriving at a work site, does not apply to small railroads. Under subsection (b), large railroads must provide each employee designated by the employer to provide on-track safety for a roadway work group and each lone worker with immediate access to a working radio. However, small railroads can provide such employees with immediate access to working wireless communications. Small railroads may also be able to avoid any of the communication equipping requirements of § 220.11 if they meet the exceptions set forth in subsection (c).

Most small railroads will have a low enough volume and train frequency not to be impacted by the requirements of § 220.11, since paragraph (c) exempts small railroads that meet certain specified conditions. To qualify for an exemption from § 220.11, a small railroad may not operate a large volume of traffic over a branch line. Generally, the ability of a railroad to perform track-related maintenance on track(s) that are taken out of service is inversely related to the volume and frequency of trains on its branch lines.

Environmental Impact

FRA has evaluated these proposed regulations in accordance with its procedures for ensuring full consideration of the potential environmental impacts of FRA actions, as required by the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*) and related directives. These proposed regulations meet the criteria that establish this as a non-major action for environmental purposes.

Appendix

FRA plans to revise Appendix C to part 220—Schedule of Civil Penalties in the final rule. Because such penalty schedules are statements of policy, notice and comment are not required prior to their issuance. See 5 U.S.C. 553(b)(3)(A). Nevertheless, interested parties are welcome to submit their views on what penalties may be appropriate.

Federalism Implications

This proposed rule has been analyzed according to the principles of Executive Order 12612 (''Federalism''). It has been determined that these proposed amendments to Part 220 do not have sufficient federalism implications to warrant the preparation of a Federalism Assessment. The fundamental policy decision providing that Federal regulations should govern aspects of service provided by municipal and public benefit corporations (or agencies) of State governments is embodied in the statute quoted above. FRA has made every effort to provide reasonable flexibility to State-level decision making and has included commuter authorities as full partners in development of this proposed rule.

Paperwork Reduction Act

The proposed rule contains some new information collection requirements. The information collection requirements currently in 49 CFR part 220 were approved by the Office of Management and Budget (OMB) under OMB approval numbers 2130–0035 and 2130–0524 and are marked with an ''*'' below. These information collection requirements plus any new information collection requirements resulting from this rulemaking proceeding will be submitted to OMB for approval under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 *et seq.* at the final rule stage. The sections that contain the current and proposed new information collection requirements are listed below. All estimates include the time for reviewing instructions; searching existing data sources; gathering or maintaining the needed data; and reviewing the information.

CFR section	Respondent universe	Total annual responses	Average time per response	Total annual burden hours	Total annual burden cost
220.13—Reporting emergencies.	680 railroads	N/A	Usual and Customary Practice under Common Law.	N/A	N/A
*220.21—Railroad operating rules; radio communication; recordkeeping.	680 railroads	N/A	Approved by OMB under 2130–0035. Requirement will not impose any new burden.	N/A	N/A
220.23—Publication of radio information.	680 railroads	N/A	Usual and Customary Procedure.	N/A	N/A
*220.25—Instruction and operational testing of employees.	N/A	N/A	Approved by OMB under 2130–0035.	N/A	N/A
—Instruction	680 railroads	Additional 15,000 employees trained.	30 minutes	Annual burden will increase by 7,500 hours to include training for roadway workers.	$187,500

CFR section	Respondent universe	Total annual responses	Average time per response	Total annual burden hours	Total annual burden cost
—Periodic operational testing—new requirement.	680 railroads	Additional 33,333 tests.	15 minutes	Increase of 8,333 hours annually.	$208,325
220.27—Identification	N/A	N/A	Usual and Customary Procedure.	N/A	N/A
220.31—Initiating a radio transmission—identification.	N/A	N/A	Usual and Customary Procedure.	N/A	N/A
220.33—Receiving a radio transmission—acknowledgement.	N/A	N/A	Usual and Customary Procedure.	N/A	N/A
220.35—Ending a radio transmission.	N/A	N/A	Usual and Customary Procedure.	N/A	N/A
220.37—Testing radio and wireless communication equipment.	680 railroads	780,000 tests	30 seconds	6,500 hours	$162,500
220.38—Communication equipment failure—notification.	N/A	N/A	Usual and Customary Procedure.	N/A	N/A
220.47—Emergency radio transmission.	N/A	N/A	Usual and Customary Procedure.	N/A	N/A
220.61—Transmission of mandatory directives:					
*—Copying and repeating of mandatory directive.	N/A	N/A	Approved by OMB under 2130–0524.	N/A	N/A
—Train crews—marking with an X mandatory directives fulfilled or canceled.	680 railroads	52,000 X's	15 seconds	217 hours	$5,425
—On track equipment—marking with an X mandatory directives fulfilled or canceled.	680 railroads	39,000 X's	15 seconds	163 hours	$4,075

Pursuant to 44 U.S.C. 3506(c)(2)(B), FRA solicits comments on the quality, utility, and clarity of the information to be collected; and on whether these information collection requirements are necessary for the proper performance of the function of FRA, including whether the information has practical utility; whether FRA's estimates of the burden of the information collection requirements are accurate; and whether the burden of collection of information on those who are to respond, including through the use of automated collection techniques or other forms of information technology, may be minimized.

Organizations and individuals desiring to submit comments on these information collection requirements should direct them to Gloria Swanson Eutsler, Federal Railroad Administration, RRS–211, 400 7th Street, S.W., Washington, D.C. 20590, or contact Mrs. Eutsler at (202) 632–3318. The final rule will address any public comments received on the information collection requirements contained in this proposal.

FRA cannot impose a penalty on persons for violating information collection requirements which do not display a current OMB control number, if required. FRA intends to obtain current OMB control numbers for any information collection requirements resulting from this rulemaking action prior to the effective date of a final rule. The OMB control number, when assigned, will be announced by separate notice in the **Federal Register**.

List of Subjects in 49 CFR Part 220

Communications, Railroads.

Accordingly, for the reasons stated in the preamble, FRA proposes to revise 49 CFR part 220 to read as follows:

PART 220—RAILROAD COMMUNICATIONS

Subpart A—General

Subpart A—General

Subpart B—Radio and Wireless Communication Procedures

Authority: 49 U.S.C. 20103, 21301, 21304, 21311 (1994); and 49 CFR 1.49(m).

Subpart A—General

§ 220.1 Scope.

This part prescribes minimum requirements governing the use of wireless communications in connection with railroad operations. So long as these minimum requirements are met,

railroads may adopt additional or more stringent requirements.

§ 220.2 Preemptive effect.

Under 49 U.S.C. 20106 (formerly section 205 of the Federal Railroad Safety Act of 1970, 45 U.S.C. 434), issuance of these regulations preempts any State law, rule, regulation, order, or standard covering the same subject matter, except a provision directed at an essentially local safety hazard that is not incompatible with this part and that does not unreasonably burden interstate commerce.

§ 220.3 Application.

(a) Except as provided in paragraph (b) of this section, this part applies to railroads that operate trains or other rolling equipment on standard gage track which is part of the general railroad system of transportation.

(b) This part does not apply to:

(1) A railroad that operates only on track inside an installation which is not part of the general railroad system of transportation; or

(2) Rapid transit operations in an urban area that are not connected with the general railroad system of transportation.

§ 220.5 Definitions.

As used in this part, the term:

Control center means the locations on a railroad from which the railroad issues instructions governing railroad operations.

Division headquarters means the location designated by the railroad where a high-level operating manager (e.g., a superintendent, division manager, or equivalent), who has jurisdiction over a portion of the railroad, has an office.

Employee means an individual who is engaged or compensated by a railroad or by a contractor to a railroad, who is authorized by a railroad to use its wireless communications in connection with railroad operations.

Joint operations means rail operations conducted by more than one railroad on the track of a railroad subject to the requirements of § 220.9(a), except as necessary for the purpose of interchange.

Lone worker means an individual roadway worker who is not being afforded on-track safety by another roadway worker, who is not a member of a roadway work gang, and who is not engaged in a common task with another roadway worker.

Mandatory directive means any movement authority or speed restriction that affects a railroad operation.

Railroad operation means any activity which affects the movement of a train, locomotive, on-track equipment, or track motor car, singly or in combination with other equipment, on the track of a railroad.

Roadway worker means any employee of a railroad, or of a contractor to a railroad, whose duties include inspection, construction, maintenance or repair of railroad track, bridges, roadway, signal and communication systems, electric traction systems, roadway facilities or roadway maintenance machinery on or near track or with the potential of fouling a track, and flagmen and watchmen/lookouts.

System headquarters means the location designated by the railroad as the general office for the railroad system.

Train means one or more locomotives coupled with or without cars, requiring an air brake test in accordance with 49 CFR part 232, except during switching operations or where the operation is that of classifying and assembling rail cars within a railroad yard for the purpose of making or breaking up trains.

Working radio means a radio that can communicate with the control center of the railroad (through repeater stations, if necessary to reach the center) from any location within the rail system, with the exception of limited segments of territory where topography or transient weather conditions temporarily prevent effective communication. In the case of joint operations on another railroad, the radio must be able to reach the control center of the host railroad.

Working wireless communications means the capability to communicate with either a control center or an emergency responder of the railroad through such means as radio, portable radio, cellular telephone, or other means of two-way communication, from any location within the rail system, with the exception of limited segments of territory where topography or transient weather conditions temporarily prevent effective communication. In the case of joint operations on another railroad, the working wireless communication must be able to reach the control center of the host railroad.

§ 220.7 Penalty.

Any person (including but not limited to a railroad; any manager, supervisor, official, or other employee or agent of a railroad; any owner, manufacturer, lessor, or lessee of railroad equipment, track, or facilities; any independent contractor providing goods or services to a railroad; and any employee of such owner, manufacturer, lessor, lessee, or independent contractor) who violates any requirement of this part or causes the violation of any such requirement is subject to a civil penalty of at least $500 and not more than $10,000 per violation, except that: Penalties may be assessed against individuals only for willful violations; where a grossly negligent violation or a pattern of repeated violations has created an imminent hazard of death or injury, or has caused death or injury, a penalty not to exceed $20,000 per violation may be assessed; and the standard of liability for a railroad will vary depending upon the requirement involved. Each day a violation continues shall constitute a separate offense. (See appendix C to this part for a statement of agency civil penalty policy).

§ 220.9 Requirements for trains.

(a) Except as provided for in paragraph (b) of this section, each occupied controlling locomotive in a train shall have a working radio, and each train shall also have communications redundancy. For purposes of this section, ''communications redundancy'' means a working radio on another locomotive in the consist or other means of working wireless communications.

(b) The following requirements apply to a railroad that has fewer than 400,000 annual employee work hours:

(1) Any train that transports passengers shall be equipped with a working radio in the controlling locomotive and with redundant working wireless communications capability in the same manner as provided in paragraph (a) of this section.

(2) Any train that operates at greater than 25 miles per hour; or engages in joint operations on track where the maximum authorized speed for freight trains exceeds 25 miles per hour; or engages in joint operations on a track that is adjacent to and within 30 feet measured between track center lines of another track on which the maximum authorized speed for passenger trains exceeds 40 miles per hour, shall be equipped with a working radio in the controlling locomotive.

(3) Any train that engages in joint operations, where the maximum authorized speed of the track is 25 miles per hour or less, shall be equipped with working wireless communications in the controlling locomotive.

(4) Any train not described in paragraph (b) of this section that transports hazardous material required to be placarded under the provisions of part 172 of this title shall be equipped with working wireless communications in the controlling locomotive.

§ 220.11 Requirements for roadway workers.

(a) The following requirements apply to a railroad that has 400,000 or more annual employee work hours:

(1) Maintenance of way equipment operating without locomotive assistance between work locations shall have a working radio on at least one such unit in each multiple piece of maintenance of way equipment traveling together under the same movement authority. The operators of each additional piece of maintenance of way equipment shall have communications capability with each other.

(2) Each maintenance of way work gang shall have intra-gang communications capability upon arriving at a work site.

(b) Each employee designated by the employer to provide on-track safety for a roadway work gang or gangs, and each lone worker, shall maintain immediate access to a working radio, except that a railroad with fewer than 400,000 annual employee work hours can provide immediate access to working wireless communications as an alternative to a working radio.

(c) This section does not apply to:

(1) Railroads which have fewer than 400,000 annual employee work hours, and which do not operate trains in excess of 25 miles per hour; or

(2) Railroad operations where the work location of the roadway work gang or lone worker:

(i) is physically inaccessible to trains; or

(ii) has no through or adjacent rail traffic during the period when roadway workers will be present.

§ 220.13 Reporting emergencies.

(a) Employees shall immediately report by the quickest means available derailments, collisions, storms, wash-outs, fires, obstructions to tracks, and other hazardous conditions which could result in death or injury, damage to property or serious disruption of railroad operations.

(b) In reporting emergencies, employees shall follow:

(1) The procedures of § 220.47 of this part when using a radio; or

(2) The procedures specified for reporting emergencies in the railroad's timetables or timetable special instructions, when using another means of wireless communications.

(c) Employees shall describe as completely as possible the nature, degree and location of the hazard.

Subpart B—Radio and Wireless Communication Procedures

§ 220.21 Railroad operating rules; radio communications; recordkeeping.

(a) The operating rules of each railroad with respect to radio communications shall conform with the requirements of this part.

(b) Thirty days before commencing to use radio communications in connection with railroad operations each railroad shall retain one copy of its current operating rules with respect to radio communications at the locations prescribed in paragraphs (b)(1) and (b)(2) of this section. Each amendment to these operating rules shall be filed at such locations within 30 days after it is issued. These records shall be made available to representatives of the Federal Railroad Administration for inspection and photocopying during normal business hours.

(1) Each Class I railroad, each Class II railroad, each railroad providing intercity rail passenger service, and each railroad providing commuter service in a metropolitan or suburban area shall retain such rules at each of its division headquarters and at its system headquarters; and

(2) Each Class III railroad and any other railroad subject to this part but not subject to paragraph (b)(1) of this section shall retain such rules at the system headquarters of the railroad.

(c) For purposes of this section, the terms Class I railroad, Class II railroad, and Class III railroad have the meaning given these terms in 49 CFR Part 1201.

§ 220.23 Publication of radio information.

Each railroad shall designate its territory where radio base stations are installed, where wayside stations may be contacted, and designate the appropriate radio channels used by these stations in connection with railroad operations by publishing them in a timetable or special instruction. The publication shall indicate the periods during which base and wayside radio stations are operational.

§ 220.25 Instruction and operational testing of employees.

Each employee who a railroad authorizes to use a radio in connection with a railroad operation shall be:

(a) Provided with a copy of the railroad's operating rules governing the use of radio communication in a railroad operation;

(b) Instructed in the proper use of radio communication as part of the program of instruction prescribed in § 217.11 of this chapter; and

(c) Periodically tested under the operational testing requirements in § 217.9 of this chapter.

§ 220.27 Identification.

(a) Except as provided in paragraph (c) of this section, the identification of each wayside, base or yard station shall include at least the following minimum elements, stated in the order listed:

(1) Name of railroad. An abbreviated name or initial letters of the railroad may be used where the name or initials are in general usage and are understood in the railroad industry; and

(2) Name and location of office or other unique designation.

(b) Except as provided in paragraph (c) of this section, the identification of each mobile station shall consist of the following elements, stated in the order listed:

(1) Name of railroad. An abbreviated name or initial letters of the railroad may be used where the name or initial letters are in general usage and are understood in the railroad industry;

(2) Train name (number), if one has been assigned, or other appropriate unit designation; and

(3) When necessary, the word ''locomotive'', ''motorcar'', or other unique identifier which indicates to the listener the precise mobile transmitting station.

(c) If positive identification is achieved in connection with switching, classification, and similar operations wholly within a yard, fixed and mobile units may use short identification after the initial transmission and acknowledgement consistent with applicable Federal Communications Commission regulations governing ''Station Identification''.

§ 220.29 Statment of letters and numbers in radio communications.

(a) If necessary for clarity, a phonetic alphabet shall be used to pronounce any letter used as an initial, except initial letters of railroads. See appendix A of this part for the recommended phonetic alphabet.

(b) A word which needs to be spelled for clarity, such as a station name, shall first be pronounced, and then spelled. If necessary, the word shall be spelled again, using a phonetic alphabet.

(c) Numbers shall be spoken by digit, except that exact multiples of hundreds and thousands may be stated as such. A decimal point shall be indicated by the word ''decimal,'' ''dot,'' or ''point''. (See appendix B to this part, for a recommended guide to the pronunciation of numbers.)

§ 220.31 Initiating a radio transmission.

Before transmitting by radio, an employee shall:

(a) Listen to ensure that the channel on which the employee intends to transmit is not already in use;

(b) Identify the employee's station in accordance with the requirements of § 220.27; and

(c) Verify that the employee has made radio contact with the person or station with whom the employee intends to communicate by listening for an acknowledgment. If the station acknowledging the employee's transmission fails to identify itself properly, the employee shall require a proper identification before proceeding with the transmission.

§ 220.33 Receiving a radio transmission.

(a) Upon receiving a radio call, an employee shall promptly acknowledge the call, identifying the employee's station in accordance with the requirements of § 220.27 and stand by to receive. An employee need not attend the radio during the time that this would interfere with other immediate duties relating to the safety of railroad operations.

(b) An employee who receives a transmission shall repeat it to the transmitting party unless the communication:

(1) Relates to yard switching operations;

(2) Is a recorded message from an automatic alarm device; or

(3) Is general in nature and does not contain any information, instruction or advice which could affect the safety of a railroad operation.

§ 220.35 Ending a radio transmission.

(a) At the close of each transmission to which a response is expected, the transmitting employee shall say ''over'' to indicate to the receiving employee that the transmission is ended.

(b) At the close of each transmission to which no response is expected, the transmitting employee shall state the employee's identification followed by the word ''out'' to indicate to the receiving employee that the exchange of transmissions is complete.

§ 220.37 Testing radio and wireless communication equipment.

(a) Each radio and redundant wireless communication equipment used under §§ 220.9 and 220.11 shall be tested as soon as practicable to ensure that the equipment functions as intended prior to the commencement of the work assignment.

(b) The test of a radio shall consist of an exchange of voice transmissions with another radio. The employee receiving the transmission shall advice the employee conducting the test of the clarity of the transmission.

§ 220.38 Communication equipment failure.

(a) Any radio or wireless communication device found not to be functioning as intended when tested pursuant to § 220.37 shall be removed from service and the dispatcher or other employee designated by the railroad shall be so notified as soon as practicable.

(b) If a radio fails on the controlling locomotive en route, the train may continue until the earlier of—

(1) The next calendar day inspection, or

(2) The nearest forward point where the radio can be repaired or replaced.

§ 220.39 Continuous radio monitoring.

Each radio used in a railroad operation shall be turned on to the appropriate channel as designated in § 220.23 and adjusted to receive communications.

§ 220.41 [Reserved]

§ 220.43 Radio communications consistent with Federal regulations and railroad operating rules.

Radio communication shall not be used in connection with a railroad operation in a manner which conflicts with the requirements of this part, Federal Communication Commission regulations or the railroad's operating rules. The use of citizen band radios for railroad operating purposes is prohibited.

§ 220.45 Radio communication shall be complete.

Any radio communication which is not fully understood or completed in accordance with the requirements of this part and the operating rules of the railroad, shall not be acted upon and shall be treated as though not sent.

§ 220.47 Emergency radio transmissions.

An initial emergency radio transmission shall be preceded by the word ''emergency,'' repeated three times. An emergency transmission shall have priority over all other transmissions and the frequency or channel shall be kept clear of non-emergency traffic for the duration of the emergency communication.

§ 220.49 Radio communication used in shoving, backing or pushing movements.

When radio communication is used in connection with the shoving, backing or pushing of a train, locomotive, car, or on-track equipment, the employee directing the movement shall give complete instructions or keep in continual radio contact with the employee receiving the instructions. The distance of the movement shall be specified, and the movement shall stop in one-half the remaining distance unless additional instructions are received. If the instructions are not understood or continual radio contact is not maintained, the movement shall be stopped immediately and may not be resumed until the misunderstanding has been resolved, radio contact has been restored, or communication has been achieved by hand signals or other procedures in accordance with the operating rules of the railroad.

§ 220.51 Radio communications and signal indications.

(a) No information may be given by radio to a train or engine crew about the position or aspect displayed by a fixed signal. However, radio may be used by a train crew member to communicate information about the position or aspect displayed by a fixed signal to other members of the same crew.

(b) Except as provided in the railroad's operating rules, radio communication shall not be used to convey instructions which would have the effect of overriding the indication of a fixed signal.

§ 220.61 Transmission of mandatory directives.

(a) Each mandatory directive may be transmitted by radio only when authorized by the railroad's operating rules. The directive shall be transmitted in accordance with the railroad's operating rules and the requirements of this part.

(b) The procedure for transmission of a mandatory directive by radio is as follows:

(1) The train dispatcher or operator shall call the addressees of the mandatory directive and state the intention to transmit the mandatory directive.

(2) Before the mandatory directive is transmitted, the employee to receive and copy shall state the employee's name, identification, location, and readiness to receive and copy. An employee operating the controls of moving equipment shall not receive and copy mandatory directives. A mandatory directive shall not be transmitted to employees on moving equipment, if such directive cannot be received and copied without impairing safe operation of the equipment.

(3) A mandatory directive shall be copied in writing by the receiving

employee in the format prescribed in the railroad's operating rules.

(4) After the mandatory directive has been received and copied, it shall be immediately repeated in its entirety. After verifying the accuracy of the repeated mandatory directive, the train dispatcher or operator shall then state the time and name of the employee designated by the railroad who is authorized to issue mandatory directives. An employee copying a mandatory directive shall then acknowledge by repeating the time and name of the employee so designated by the railroad.

(5)(i) For train crews, before a mandatory directive is acted upon, the conductor and engineer shall each have a written copy of the mandatory directive and make certain that the mandatory directive is read and understood by all members of the crew who are responsible for the operation of the train. Mandatory directives which have been fulfilled or canceled shall be marked with an ''X'' or in accordance with the railroad's operating rules.

(ii) For on-track equipment, before a mandatory directive is acted upon, the employee in charge of the on-track equipment shall have a written copy of the mandatory directive and make certain that the mandatory directive is acknowledged by all employees who are responsible for executing that mandatory directive. Mandatory directives which have been fulfilled or canceled shall be marked with an ''X'' or in accordance with the railroad's operating rules.

(6) A mandatory directive which has not been completed or which does not comply with the requirements of the railroad's operating rules and this part, may not be acted upon and shall be treated as though not sent. Information contained in a mandatory directive may not be acted upon by persons other than those to whom the mandatory directive is addressed.

Appendix A to Part 220—Recommended Phonetic Alphabet

A—ALFA
B—BRAVO
C—CHARLIE
D—DELTA
E—ECHO
F—FOXTROT
G—GOLF
H—HOTEL
I—INDIA
J—JULIET
K—KILO
L—LIMA
M—MIKE
N—NOVEMBER
O—OSCAR
P—PAPA
Q—QUEBEC
R—ROMEO
S—SIERRA
T—TANGO
U—UNIFORM
V—VICTOR
W—WHISKEY
X—XRAY
Y—YANKEE
Z—ZULU

The letters ''ZULU'' should be written as ''Z'' to distinguish it from the numeral ''2''.

Appendix B to Part 220—Recommended Pronunciation of Numerals

To distinguish numbers from similar sounding words, the word ''figures'' should be used preceding such numbers. Numbers should be pronounced as follows:

Number	Spoken
0	0
1	WUN
2	TOO
3	THUH-REE-
4	FO-WER
5	FI-YIV
6	SIX
7	SEVEN
8	ATE
9	NINER

(The figure ZERO should be written as ''O'' to distinguish it from the letter ''O''. The figure ONE should be underlined to distinguish it from the letter ''I''. When railroad rules require that numbers be spelled, these principles do not apply.)

The following examples illustrate the recommended pronunciation of numerals:

Number	Spoken
44	FO—WER FO-WER
500	FI-YIV HUNDRED
1000	WUN THOUSAND
1600	WUN SIX THOUSAND
14899	WUN FO-WER ATE NINER NINER
20.3	TOO ZERO DECIMAL THUH-REE

APPENDIX C TO PART 220—SCHEDULE OF CIVIL PENALTIES [1]

Section		Violation	Willful violation
220.21	Railroad operating rules; radio communications:		
(a)		$5,000	$7,500
(b)		2,500	5,000
220.23	Publication of radio information	2,500	5,000
220.25	Instruction of employees	5,000	7,500
220.27	Identification	1,000	2,000
220.29	Statement of letters and numbers	1,000	2,000
220.31	Initiating a transmission	1,000	2,000
220.33	Receiving a transmission	1,000	2,000
220.35	Ending a transmission	1,000	2,000
220.37	Voice test	5,000	7,500
220.39	Continuous monitoring	2,500	5,000
220.41	Notification on failure of train radio	2,500	5,000
220.43	Communication consistent with the rules	2,500	5,000
220.45	Complete communications	2,500	5,000
220.47	Emergencies	2,500	5,000
220.49	Switching, backing or pushing	5,000	7,500
220.51	Signal indications	5,000	7,500
220.61	Transmission of train orders by radio	5,000	7,500

[1] A penalty may be assessed against and only for a willful violation. The Administrator reserves the right to assess a penalty of up to $20,000 for any violation where circumstances warrant. See 49 CFR part 209, appendix A.

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Jolene M. Molitoris,

Federal Railroad Administrator.

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