



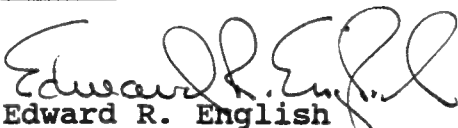
U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

# Memorandum

Date: **APR 27 1993**

Reply to Attn. of: **OP 93-01**

Subject: **Action: Radio Communication Safety Inquiry**

  
From: **Edward R. English**  
**Director, Office of Safety Enforcement**

To: **Regional Directors**

The United States Congress enacted Public Law 102-365, "RAIL SAFETY ENFORCEMENT AND REVIEW ACT," on September 3, 1992. While the Act addresses many concerns of the Congress, "Section 11 - Railroad Radio Communications," specifically requires that FRA conduct a radio communications safety inquiry, and provide a Report to Congress on the effort. The Operating Practices Division has responsibility to execute this project with headquarters specialist Gene Cox designated as the project manager.

In order to fulfill this mandate, we will need the participation of operating practices and signal and train control inspectors. It will involve train riding and site visits between now and the end of August. Attached is a package which will (1) overview the project, (2) provide a guideline questionnaire for inspectors when in the field, (3) explain the next step after information gathering, and (4) detail our milestones for when the work must be completed. Please provide this package to your operating practices specialist and each participating inspector. We need to get started on this effort now.

We will have a public safety inquiry sometime next fall after the input from the field is in and analyzed. FRA stands to benefit as a result of our interaction with the industry on this issue. Our inspectors will be better informed about current radio communications systems; they will enhance their individual analytical skills through evaluating the differing systems; and, FRA will gain insight into the latest technology while identifying solutions to existing safety problems. In the end the problems unique to effective railroad radio communications will be understood. Corrective measure can then be discussed.

This assignment has two goals: The first is to define how things are today and what the industry can do to improve and enhance the system. The second part is to determine how things might be in the future recognizing the potential for developing technologies, such as Advanced Train Control Systems (ATCS) and enhanced computerized train dispatching capabilities.

I know you have a full slate of activities for inspectors. However, we have designed this project so that most of the information can be gathered during normal train riding and site inspection visits. This is a significant program that has the attention of Congress. FRA has the potential to positively impact railroad safety through defining and prescribing enhanced communications procedures/methodologies. I appreciate your full and timely support.

Once your inspection activity is complete, specialists are asked to provide a report summarizing the region's experience as instructed in the enclosed "Instructions to Regional Operating Practices Specialists" and forwarded to Mr. Cox, RRS-11, 202 366-0505, as soon as you can.

Thank you.

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Attachments

## RAILROAD RADIO COMMUNICATION INFORMATION GATHERING

Introduction: This is a very special and unique opportunity for FRA to have an impact on radio communications in the railroad industry. Between now and late August, you will have the chance to document railroad communications procedures, problems and recommend corrective actions.

The Law: On September 3, 1992, the United States Congress enacted into Public Law 102-365 - "RAIL SAFETY ENFORCEMENT AND REVIEW ACT." While the ACT addresses many concerns of the Congress, Section 11, Railroad Radio Communications, mandates the following:

(a) SAFETY INQUIRY. - The Secretary shall, within 18 months after the date of enactment of this Act and in consultation with the National Railroad Passenger Corporation, freight and commuter railroads, rail equipment manufacturers, and railroad employees, conduct a safety inquiry regarding the Department of Transportation's railroad radio standards and procedures. At a minimum, such inquiry shall include **ASSESSMENT** of:

(1) the advantages and disadvantages of requiring that every locomotive (and every caboose, where applicable) be equipped with a railroad voice communication system capable of permitting a person in the locomotive (or caboose) to engage in clear two-way communications with persons on following and leading trains and with dispatchers located at railroad stations;

(2) a requirement that replacement radios be made available at intermediate terminals;

- (3) the effectiveness of radios in ensuring timely emergency response;
- (4) the effect of interference and other disruptions of radio communications on safe railroad operations;
- (5) how advanced communications technologies such as digital radio can be implemented to best enhance the safety of railroad operations;
- (6) the status of advanced train control systems that are being developed, and the implications of such systems for effective railroad communications; and
- (7) the need for minimum Federal standards to ensure that such systems provide for positive train separation and are compatible nationwide.

(b) REPORT TO CONGRESS. - The Secretary shall submit to Congress within four months after the completion of such inquiry a report on the results of the inquiry along with an identification of appropriate regulatory action and specific plans for taking such action.

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Section 11 requires a comprehensive in-depth examination of the current status of radio communications systems technologies within the railroad industry. We need to know about advanced technologies in operations and data transmission. Further, the SAFETY INQUIRY needs to include safety assurance determinations. We need to examine the adequacy of today's regulatory presence, as well as the needs for the future. The project will include significant interaction with other Federal agencies, labor organizations, suppliers, the National Railroad Passenger Corporation (Amtrak) and commuter railroads.

The Operating Practices Inspectors have an active role of participation in this SAFETY INQUIRY. A key concern is the gathering of information through train riding experiences. We should take significant train riding samplings on all the major railroads, the National Railroad Passenger Corporation (AMTRAK), commuter railroads, as well as their various types of yard and terminal train movement related operations. These samplings should include main line routes and active branchlines.

We need to: (1) gather information through our observations, (2) determine the reliability of the communication systems, (3) gain good perceptions about the quality and timeliness of maintenance, (4) determine and provide a record of the employee's level of compliance with Federal regulation, PART 220 - Radio Standards and Procedures, and carrier-specific radio use rules. Remember, the purpose of the SAFETY INQUIRY is for information gathering, to improve radio communications. Our efforts must become carrier specific. We need to evaluate carrier training programs, testing of comprehension, monitoring, and enforcement effectiveness. Train accidents resulting in employee fatalities and injuries are all a matter of record. Employee noncompliance with radio use standards and procedures have been the primary cause in some accidents, and in others the contributing cause. Our findings need to become an integral element of the record gathering process.

Our message must come clear to all carriers and their employees: Radio rules are important. Railroads must teach radio rules to their employees. Railroads must test employees' application of the rules. Railroads need to monitor for effective compliance effectiveness. Employees need to do what is expected of them-- comply with the Federal and carrier-specific radio use rules. Attached please find a form to use when we are train riding and working to provide a record of observations.

This form is intended as a guide only. You will need to pursue and supplement the issues as you see fit. Our purpose is to gather information, identify problems, and give solutions to these problems. By doing so, we will contribute to better communications and enhanced railroad safety. We have an extraordinary opportunity to identify and document the problems that pose a degradation to safety, via the use of radio communications in the railroad industry today. Equally important is our extraordinary opportunity to influence establishment of corrective measures to get such problems fixed.

As we look to the future, picture this: (1) the transmission of train movement directives such as train orders, track warrants, slow orders, etc., issued between command/control centers and operating trains, via the printed message -- not voice communications, (2) the enormous safety improvement in train collision avoidance that would result from the presence of a

positive train separation system. Our collective efforts are now focused on the radio communications issues and problems as they exist today. FRA will continue to monitor and support the significant technological efforts underway. FRA's role is to hasten the arrival of tomorrow -- a tomorrow for safe communications assurance on the railroad.

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MEMORANDUM

DATE: May 28, 1993

SUBJECT: Radio Communications Safety Inquiry - Implementing Instructions

FROM: J.S.Leaman, OP Specialist, RRS-44

TO: Operating Practices Inspectors - RRS-44

1. Your attention is invited to the basic memorandum from Mr. English's office, dated April 27, 1993 a copy of which is attached.
2. The first topic that must be addressed by each inspector during the course of the safety inquiry must be thoroughness of effort. What I mean is that one-word answers, the use of the term "N/A", "ditto", or "see above" will not be acceptable. The questions posed by this inquiry will be analyzed for each possible permutation of an answer. There is much more than meets the eye in this and I expect a thoughtful approach to the completion of the questionnaire. I will accept fewer train rides if that means a more complete document for each ride.
3. As mentioned in the basic document, the basis of this effort is the train ride and site visit. This is something that we do on a regular basis so there is minimum impact on our activities. This may even be accomplished during the course of complaint investigations. This effort will assume a priority equal to complaint work. Some of you may already be doing this in conjunction with our monthly goal of five rides per month. I want this goal expanded temporarily to include three yard job rides per month as well. Yard and terminal inspection questions begin on page 3 (question #19) on the questionnaire. More will be welcomed. Please continue to identify these rides on your monthly activity report.
4. Upon receipt of these implementing instructions, please contact me personally to discuss your anticipated approach and possible ideas regarding the data collection effort. Some of you will be asked to perform specialized tasks during the course of the inquiry, others will be called upon to provide specific information regarding a particular company, location or operation. I will make every effort to spread the "wealth".
5. Please submit each completed questionnaire as soon as practicable after completion of the activity documented. All activities are to be completed and forwarded to me not later than the last week of August for inclusion into the final report to Headquarters.

cc; RMM  
LFD  
Each Inspector  
Chief Inspectors