The Safety Rationale for Creation of the Railroad Radio Service is Even More Imperative Today

- Carriage of hazardous materials
- Heightened demand for rail transportation
- Higher train speeds
- Rise of automation
- Increased frequency of train movements
- Increased number of railroads using railroad frequencies

Railroad Communications, Like Airline Communications, Must Have a Separate Service Allocation

- FCC rightly is not proposing to consolidate air traffic control and aeronautical en route channels with those of other users.
- For safety reasons, separate service allocations were made for both railroads and airlines.
- Safety dictates preservation of separate service allocations for both industries.

Airlines and Railroads Both Use Mobile Radio for Safety

Common Functions:

Traffic Control and Coordination

Ensuring Safe Separation Distances

Hazard and Defect Detection

Override Controls

Emergency Response and Assistance

System Monitoring

Event Recorder ("Black Box")

Exception:

No "near misses" in railroad operations -- trains travel on fixed route

Consolidation Will Result in Unsafe Conditions for the Railroads

- **Consolidation will result in:**
  - **loss of control over channels**
  - **multiple users on the same channel**
  - **increased risk of interference**
  - **blocked or delayed safety transmissions**

- **Related problems:**
  - **Identifying the source of interference will be impossible**
  - **Other users have little incentive to prevent or remedy interference**

FCC Rationale for Consolidation is Flawed

FCC ASSERTION	RESPONSE
1. Consolidation is necessary to equalize usage disparities.	1. For safety users, immediate availability of a channel is more important than maximizing the number of users on a channel.
2. Interservice sharing does not work.	2. Railroads already share channels in locations where safety will not be compromised.
3. Consolidation promotes use of spectrum efficient technology through the aggregation of channel blocks.	3. Consolidation will destroy the railroads' contiguous block of spectrum and preclude use of advanced technologies.
4. Consolidation will increase flexibility in channel assignments.	4. Because of the complexity of coordinating a nationwide spectrum plan, consolidation will complicate railroad frequency assignment.

Executive Branch Agencies are Opposed to Consolidation of the Railroad Radio Service

"...[T]he consolidation of the Railroad Radio Service into a broader pool, and the consequent access to traditional railroad frequencies that will be provided to nonrailroad users, would have serious negative consequences for railroad safety."

- National Transportation Safety Board

"The Commission's consolidation proposal will endanger safety...It will result in increased interference to critical railroad communications and will add to the complexity of the railroad radio equipment. The continued authorization of the Railroad Radio Service is imperative."

- Federal Railroad Administration

Conclusions

1. **Preservation of the Railroad Radio Service is in the public interest because it will help ensure safe railroad operations.**

2. **The FCC should heed the advice of the FRA and the NTSB regarding the continued authorization of the Railroad Radio Service.**

> ***"Railroad must be given the tools required to service the public interest. The Commission's continued authorization of the Railroad Radio Service is imperative."***
>
> **Letter dated July 13, 1994 from FRA Administrator Jolene Molitoris to FCC Chairman Reed Hundt**

Attachments

Attachment A: **Letter dated December 15, 1995 from National Transportation Safety Board Chairman Jim Hall to FCC Chairman Reed Hundt**

Attachment B: **Letter dated December 12, 1995 from Federal Railroad Administration Administrator Jolene Molitoris to FCC Chairman Reed Hundt**

ATTACHMENT A

National Transportation Safety Board

Washington, D.C. 20594

Office of the Chairman

December 15, 1995

RECEIVED
JAN 18 '96
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

PR Docket No. 92-235
EX PARTE PRESENTATION

Honorable Reed Hundt
Chairman
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Dear Chairman Hundt:

The National Transportation Safety Board has learned that the Federal Communications Commission (FCC) is proposing to consolidate the current Private Land Mobile Radio Services, of which the Railroad Radio Service is one, into a few broad user pools.[1] The Safety Board has significant interest in this plan because the railroad industry relies on its radio communications systems to perform essential safety functions.

U.S. railroads operate vast communications networks, which are used continuously to control critical functions of railroad operations. A modern railroad command and control system depends on secure communications to safely control train movements, switch operations, and signals. Direct communications safety functions include monitoring of train equipment integrity, track conditions, and train operations.

The Safety Board is concerned that the consolidation of the Railroad Radio Service into a broader pool, and the consequent access to traditional railroad frequencies that will be provided to nonrailroad users, would have serious negative consequences for railroad safety. Railroads depend on compatible systems and nationwide interoperability of mobile radio equipment for effective coordination of safety practices. The centralized management of assigned railroad frequencies by the Association of American Railroads is essential to maintain the industry's ability to satisfy these compatibility and interoperability requirements.

Consolidation of railroad frequencies with those of other user groups directly threatens interoperability. The risk of interference would greatly increase due to the elimination of the requirement that the railroad industry consent to channel-sharing and assignment of adjacent channels. Uniform assignments for safety applications would be difficult to obtain, thereby increasing the complexity of railroad safety management. Allowing nonrailroad users to occupy railroad channels would also compromise the railroad's continuous access to clear channels for making emergency transmissions.

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[1] *Report and Order and Further Notice of Proposed Rulemaking, PR Docket No. 92-235 at 50 (June 23, 1995)*

The complexity of railroad operations and the critical nature of emergency transmissions would make adjacent and cochannel interference particularly dangerous. The safety of railroad passengers, crew, and cargo would be jeopardized. Greater yet would be the risk to the safety and welfare of the general public.

The Safety Board urges the FCC to recognize that the safety concerns that originally inspired creation of a separate Railroad Radio Service in 1945 dictate its preservation today.

Sincerely,

Jim Hall

Jim Hall
Chairman

cc: Nancy L. Wilson
Association of American Railroads

ATTACHMENT B

RECEIVED
DEC 15 '95
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OFFICE OF THE SECRETARY

U.S. Department
of Transportation

**Federal Railroad
Administration**

Office of the Administrator

400 Seventh St., S.W.
Washington, D.C. 20590

DEC 12 1995

PR Docket No. 92-235
EX PARTE PRESENTATION

The Honorable Reed Hundt
Chairman
Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Dear Chairman Hundt:

The Federal Railroad Administration (FRA) is concerned that the Federal Communications Commission's proposal in PR Docket No. 92-235 to consolidate the Private Land Mobile Radio (PLMR) services may result in the elimination of the Railroad Radio Service and thereby jeopardize public safety.

FRA is responsible for the administration and enforcement of Federal railroad safety laws and regulations. Each day, operations relying on railroad radio involve millions of passengers, millions of tons of freight (including freight being moved in support of the Armed Forces), and significant quantities of hazardous materials in all areas of the Nation. As highlighted in FRA's July 1994 Report to Congress entitled, "Railroad Communications and Train Control," the railroad industry depends on voice and data radio communications to perform critical safety functions. A copy of that report is enclosed for your reference.

FRA has a significant interest in the Commission's action because FRA believes that elimination of the Railroad Radio Service would lead to unsafe railroad operating conditions and increased accidents to the detriment of the general public, railroad passengers, shippers, and railroad employees.

Eliminating the Railroad Radio Service would ignore the unique characteristics of railroad radio usage and the industry's unique requirement for control over its own frequencies, and poses a serious threat to public safety. Eliminating the railroad industry's exclusive control over its allotted frequencies and allowing non-railroad users easy access to railroad frequencies would result in increased interference from both co-channel and adjacent channel users. This creates a serious public safety concern.

The railroads rely on their sophisticated radio network to control train movements; for dispatching, safety monitoring, remote defect detection and for a multitude of other safety-related purposes. In this regard, the railroads' radio use is quite similar to the Federal Aviation Administration's air traffic control system. For both users, having constant access to clear

channels and avoiding conflicting transmissions that can lead to confusion or operational error is imperative. The risk of a lost, jammed or obscured radio transmission is simply not acceptable because the consequences can be disastrous. Unfortunately, if the Commission eliminates the Railroad Radio Service, this requirement for ready access will become impossible to satisfy.

For the past four decades, the U.S. railroad industry has been able to optimize radio use and to minimize harmful interference by performing the frequency coordination function for itself through the Association of American Railroads (AAR), which serves as the FCC-certified frequency coordinator for all channels in the Railroad Radio Service. AAR has also ably coordinated the needs of Railroad Radio Service users other than freight railroads, such as commuter rail operators and the urban rail transit industry. This coordination function allows the industry to preserve the nationwide interoperability that is critical to railroad safety and is a unique requirement among the PLMR users. The need for nationwide interoperability arises from the track and equipment-sharing arrangements among and between the various railroads. Thus, for example, the radio equipment aboard an Amtrak locomotive must communicate with Norfolk Southern dispatchers when on Norfolk Southern track and with Union Pacific dispatchers when on Union Pacific track.

If the Railroad Radio Service is eliminated and non-railroad users are interleaved on railroad frequencies, it will be impossible to preserve nationwide interoperability, and the increased operational complexity of the resulting plan will have an immediate adverse impact on safety. Both the railroad industry and the FRA are presently sponsoring the development and deployment of prototype communication-based positive train control systems. The development and deployment of such systems is on the "most wanted list" of technology improvements being sought by the National Transportation Safety Board. Significant levels of public and private investment have already been committed to this effort. Within the next two years, FRA expects communications-based train control systems to be operational in the States of Washington, Oregon, Michigan, and Illinois. Uncertainty as to the availability of spectrum or circumstances which threaten the availability of spectrum risk the abandonment of future investment in these train control development efforts.

An additional impact of eliminating the Railroad Radio Service would be increased contention for access to each channel as well as the need for the equipment on each train to operate on many more frequencies than at present. This would increase the complexity of designing and operating railroad radio equipment, which again will have a direct, negative impact on safety. Communications equipment that is complicated to operate leads to misunderstandings and mistakes, which are catastrophic in railroad operations where freight trains weighing thousands of tons move at speeds up to 79 mph and passenger trains are regularly scheduled at speeds as high as 125 mph. These trains take over one mile to stop.

The Commission's consolidation proposal will endanger safety by compromising the very tools the railroad industry relies on to preserve safety. It will result in increased interference to critical railroad communications and will add to the complexity of the railroad radio equipment. The continued authorization of the Railroad Radio Service is imperative.

Sincerely,

Jolene M. Molitoris

Jolene M. Molitoris
Administrator

Enclosure

cc: Mr. Edwin L. Harper