

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
The Rail Network, Inc.)	ET Docket No. 06-161
Request for Waiver of Part 15 of the)	
Commission’s Rules)	

**COMMENTS OF THE
NATIONAL ASSOCIATION OF BROADCASTERS**

I. Introduction

The National Association of Broadcasters (“NAB”),¹ pursuant to Section 1.415 of the Commission’s rules, 47 C.F.R. §1.415, hereby submits comments on a request of The Rail Network, Inc. (“TRN”) for a waiver of Part 15 of the Commission’s rules to permit an increase in the emission level allowed under Section 15.209 for unlicensed operation in the 88-108 MHz FM broadcast band.² TRN’s system would provide entertainment and information on video screens to passengers in mass transit rail cars, with the audio distributed on up to seven channels in the FM broadcast band. Although TRN’s concept may be laudable, TRN’s Request provides no technical information on many fundamental aspects of the proposed system, or engineering data to substantiate its claim that the system will protect licensed facilities from unlawful interference. It is thus impossible to adequately assess TRN’s Waiver Request, and NAB

¹ NAB is a nonprofit trade association that advocates on behalf of more than 8,300 free, local radio and television stations and also broadcast networks before Congress, the Commission and the Courts.

² The Rail Networks, Inc. Request for Waiver of Section 1.3 and 15.209 Interference Protection Showing, ET Docket No. 06-161 (filed June 23, 2006)(“TRN Request”); *Public Notice*, Office of Engineering and Technology Declares the Rail Network Inc. Request for a Waiver of Part 15 to be a “Permit-But-Disclose” Proceeding for *Ex Parte* Purposes and Requests Comments, DA 06-1649 (*rel.* Aug. 17, 2006).

respectfully urges the Commission to dismiss TRN's Request pending the submission of sufficient technical information.

II. TRN Has Not Provided Sufficient Technical Information

The Commission follows well-established legal standards when analyzing requests for waiver of its regulations. Under these standards, the Commission "will adhere strictly to its rules" unless a petitioner can show that "in the public interest, the rule should be waived."³ Waivers allow an agency to "take into account considerations of hardship, equity, or more effective implementation of overall policy."⁴ But, the petitioning party "faces a high hurdle" to present sufficient evidence to show that a waiver is warranted.⁵ The Commission will waive its rules if it determines, after careful examination, that such a grant will (1) serve the public interest,⁶ and (2) not undermine the policy that the rule in question is intended to serve.⁷

The purpose of Section 15.209 of the Commission's rules governing radiated emission limits is to protect authorized users of the spectrum from harmful interference. 47 C.F.R. §15.209. In this vein, the Commission must examine two issues: first, potential interference that TRN's system may cause to other radio operations, and second, whether appropriate restrictions will be placed on the installation and use of TRN's system.⁸ Unfortunately, the absence of engineering information in TRN's Request prevents any meaningful evaluation of the potential

³ Order, *In the Matter of Safeview, Inc.*, ET Docket No. 04-373, 2006 WL 2254525 (*rel.* Aug. 4, 2006), at ¶ 7 *citing* *FPC v. Texaco Inc.*, 337 U.S. 33, 39 (1964).

⁴ *Id.*, *citing* *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969). *See also* 47 C.F.R. §1.925.

⁵ *Id.* at 1157.

⁶ See brief discussion of TRN's public interest claims in Section III, below.

⁷ Order, *In the Matter of GPS Networking, Inc.*, RM-11002, 20 FCC Rcd 12256, 12258 (2005). Also, pursuant to 47 C.F.R. §1.3, the Commission may only waive a provision of its rules for "good cause shown."

⁸ *See, e.g., Safeview* at ¶8. *See also* 47 U.S.C. 302(a), requiring that the Commission establish regulations to prevent harmful interference to authorized radio services.

impact of TRN's proposed system on authorized licensees in the FM frequency band. The waiver request leaves several important questions unanswered:

- Description of the System

TRN's Request does not include a detailed, basic description of the proposed system, including information about the type of antenna and transmitter to be used. TRN states that it tested different types of antennas, and describes at length the obstacles it faced in locating equipment within transit cars, TRN Request at 7-10, but nowhere does it specify what kind of antenna is actually used in the system, such as dipole or whip. Similar questions surround the system's transmitter. What kind of transmitter does TRN intend to deploy? Where does it intend to locate the transmitter(s)?

The Request also does not indicate which frequencies TRN's system might use in each proposed city. At this time, TRN is requesting a waiver that covers only six cities. It would be a simple matter for TRN to discern in advance the frequencies it intends to use, and as discussed below, determine the potential for interference to the authorized FM services on these frequencies in each city. These are but a few of the basic elements concerning the proposed system's antenna and transmitter that must be disclosed before TRN's proposal can be properly evaluated.

- Signal Attenuation Outside the Rail Cars

TRN asserts that its system is designed to minimize its signal outside rail cars. *Id.* at 11. However, TRN apparently has not conducted testing to determine how much signal transmission could occur outside the rail cars at the requested power. TRN provides no measurements of the signal levels of its broadcast outside a rail car, which is necessary to determine the amount of signal attenuation provided by the rail car. The request also fails to

offer any showing that the signal levels outside a rail car will be below levels that will cause interference to authorized FM broadcasters.⁹ TRN contends that its system will not cause interference to parties located nearby, but provides no technical data to support this claim. Specifically, TRN does not provide maps of the above-ground portions of the relevant mass transit systems, showing the proximity to any roads, parking lots, residences, office complexes, and the like. For example, the Washington, DC Metro System has many aboveground tracks and rail stations, frequently with parking lots, office buildings, and highways within 1000 feet.

TRN dismisses the likelihood of interference as “temporary and transient,” arguing that any effects would be “reduced because during rail operations, the rail cars travel throughout the transit system from station to station,” which “generally operate in systems where a significant portion of the rail system operates underground or in other locations where FM reception is not readily available.” TRN Request at 12 and 13. These assertions are not sufficient support for a waiver. Indeed, they are essentially an admission by TRN that its system may cause an undesired signal. TRN refers to potential interference that may emanate from only one train, but ignores the fact that multiple trains typically use the same tracks continuously, passing the same office complex or highway as often as every minute. Deployment of TRN’s system could lead to persistent signal disruption. Moreover, TRN overlooks the time spent by transit trains at terminal stations, waiting to reverse direction. These periods can last five to ten minutes or more, and certainly cannot be characterized as “temporary and transient.” NAB maintains that technical study of this situation is also required.

⁹ TRN attaches a one-page summary of interference test results. The test reveals that TRN’s 1st and 2nd adjacent channel signal levels will exceed Part 15 limits, but offers no plan for eliminating such interference.

In order to sufficiently analyze TRN's request, TRN must, at a minimum, provide detailed engineering studies of the actual signal levels perceived outside a train car, measured from various distances from the car. TRN also should provide detailed descriptions and maps of the relevant rail systems, indicating expected locations of potential interference to authorized licensees in the band, and neighboring highways, office buildings, homes, parking lots and other places where FM radio listeners might experience signal disruption from TRN's proposed system, and measurements showing acceptable levels of disruption of all such locations.

- Amount of Power

TRN states that 87 dBuV/m reflects the minimum power necessary to provide "100 percent quality coverage" throughout a rail car, throughout a rail system. TRN Request at 7. As a preliminary matter, TRN does not define what it means by "100 percent quality," nor does it explain why this amount of coverage is necessary. More importantly, TRN's characterization of its requested 87 dBuV/m as a "nominal" level of power is unclear at best. TRN Request at 11. TRN is currently authorized under its experimental license to operate at an ERP of 600 nW, which equates to 1.093 mV/m at three meters.¹⁰ But, the emission limit under Section 15.209 is 150 μ V/m at three meters, which is equivalent to 0.150 millivolts per meter (mV/m). Thus, it appears that TRN is already operating at almost eight times the emission limits contained in Part 15 of the Commission's rules (1.093 vs. 0.150 mV/m). Now, TRN seeks permission to increase the signal strength of the proposed system to 87.0 dB μ V/m, which equates to 22.4 mV/m, or almost 150 times the emission limit contained in the Commission's rules. This is an excessive

¹⁰ Radio Station Construction Permit and License, Station WD2XOW, issued to TRN Atlanta, LLC.

amount of signal power, and unexplainable by the sparse technical data in TRN's Request.¹¹

TRN provides no explanation why the proposed system would require so much power just to reach listeners within one enclosed rail car, nor can NAB see any such need. By comparison, an FM radio station's "city grade" contour is defined by the 3.14 mV/m signal level. If 3.14 mV/m is enough to define quality coverage of an FM station, it is unclear why TRN's system would need seven times as much power to deliver adequate coverage inside a train car. At a minimum, TRN should be obligated to justify its request with detailed technical information.

- Interference Avoidance and Prevention

TRN states that it will conduct on-going spectrum monitoring, and "if the results demonstrate harmful interference, TRN's operations will be altered as necessary to avoid such harmful interference." *Id.* However, TRN fails to provide any information on how such monitoring will be performed, what exactly they will monitor, or where. TRN also does not indicate how the proposed system would be altered should interference be detected. Would the system's power be reduced, or the signal changed to another FM broadcast channel? Moreover, TRN proposes no solutions for when its efforts to cure interference fail. What steps will TRN undertake if reducing power amounts to suspending service, or if no other FM frequency is available? A choice between causing differing levels of interference to two FM channels is unacceptable to broadcasters. The request addresses none of these important, very real possibilities.

TRN suggests that the unidirectional nature of its antenna will prevent interference. TRN states that this is necessary to avoid interference between two trains traveling adjacent to each other. TRN Request at 11-12. Only as an aside does TRN acknowledge potential interference to

¹¹ TRN fails to note whether its system requires 87 dBμ per channel or on aggregate emission basis for all seven channels of programming.

“parties located further away.” Id. at 12. NAB is unsure that directional technology alone is sufficient. The basic nature of radio waves mandates that if the signals emanating from TRN’s transmitter can permeate throughout an entire rail car, it is inevitable that some amount of the signal will escape the car. NAB thus urges the Commission to request technical data from TRN in this area as well.

- Impact on IBOC

The radio broadcasting industry has started transitioning to a new, digital service using the “HD Radio” in-band/on channel technology developed by iBiquity Digital Corporation. Using IBOC, AM and FM radio broadcasters are able to provide listeners with a digital audio signal of higher quality than the traditional analog signal, within their current frequency allocation and without the need for new spectrum. This is achieved by the transmission of an additional, digital signal together with the analog signal. These so-called hybrid transmissions are being deployed by radio stations across the nation, and are receivable by both analog receivers and new IBOC receivers. TRN does not address the potential impact of its proposed system on IBOC services, leaving the Commission without a basis for judgment on this question. It may be possible that, because the digital portion of an IBOC signal has much lower power than the companion analog signal, attenuation of TRN’s signal could have a more significant impact on IBOC digital reception than it would have on analog reception.

III. TRN Overstates the Public Interest in its Proposed System

TRN states that its requested waiver is necessary to facilitate the public’s access to emergency and public safety information. TRN lists “the delivery of emergency messaging” as the primary public interest benefit to be gained by granting its waiver request. TRN Request at 7. NAB submits that, to the contrary, TRN’s proposed system would do little to further that aim,

and in fact, may undermine the delivery of emergency information. TRN claims that if the government needs to provide the rail passengers with important news and emergency information, it would employ TRN's system. However, it is highly unlikely that public safety officials would broadcast emergency information to rail passengers only over TRN's proposed system because this broadcast would only reach people with portable radios set to TRN's frequencies.¹² During an emergency, such partial alerts could lead to even more confusion, with information spreading slowly from TRN listeners to other passengers on a train. In reality, rail officials would relay emergency news to passengers over the loudspeaker system already installed in all rail cars. Such announcements would reach everyone on the train, regardless of whether they have a radio and are listening to TRN's service. Of course, a loudspeaker would require no spectrum usage and would totally eliminate the possibility of harmful interference.

IV. Conclusion

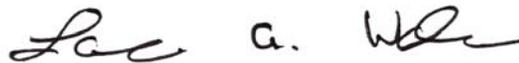
For the reasons stated above, we respectfully request that the Commission dismiss TRN's Request for Waiver of Section 15.209 of the Commission's rules because TRN's Request fails to provide technical information on many fundamental aspects of its proposed system, thereby

¹² TRN's system also could impede the distribution of emergency announcements by disrupting the signals of authorized FM radio stations.

preventing the Commission from adequately assessing the request.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Lawrence A. Walke".

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