Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	WT Docket 11-79
Wireless Telecommunications Bureau Seeks	)	DA 11-838
Comment on Spectrum Needs for the	)	
Implementation of the Positive Train Control	)	
Provisions of the Rail Safety Improvement	)	
Act of 2008	)	
Public Notice Regarding AMTRAK Request	)	WT Docket 11-27
for Waiver of Certain Part 80 AMTS Rules	)	DA 11-322
to Implement Positive Train Control	)	

To: The Commission

Ex Parte Comments of Hammett & Edison, Inc., Consulting Engineers

This filing is in response to the November 30, 2011, ex parte filing of American Public Transportation Association (APTA); that filing in turn provided a copy of a November 2011 report by Stantec Consulting Services, Inc., *PTC Radio Spectrum Planning for Passenger Commuter Rail Operators in the United States* ("Stantec Report").

I. Stantec Report Provides No Consideration of Impact to TV Channels 10 and 13

1. At Section 5.1.1, the Stantec Report identifies the 217–218 MHz Automated Maritime Telecommunications System (AMTS) band as a prime candidate for Positive Train Control (PTC). However, nowhere is it mentioned that this band, originally limited to a small number of specialized maritime coast stations, has special interference protection requirements if they are in the vicinity of a Channel 10 or Channel 13 TV station. Namely, Section 80.215(h) of the FCC Rules.

2. This omission is surprising to us, given our earlier July 11, 2011, comments to this rulemaking, and our March 8 comments and March 18, 2011, reply comments, to the related WT Docket 11-27 rulemaking.

3. The Stantec Report identifies 18 cities with commuter rail lines (CRLs); as shown below, 14 of those cities have Channel 10 or Channel 13 TV stations:

CRL City	CRL	Local Channel 10 or 13 TV station
Anchorage, AK	Alaska Railroad Corporation (ARC)	KTUU-TV, D10, Anchorage
Baltimore, MD	Maryland Transit Administration (MTA)	WJZ-TV, D13, Baltimore

CRL City	CRL	Local Channel 10 or 13 TV station
Boston, MA	Massachusetts Bay Transportation Authority (MTA)	WWDP, D10, Norwell, MA WPRI-TV, D13, Providence, RI
Chicago, IL	Northeast Illinois Regulatory Commuter Railroad (Metra) Northern Indiana Commuter Transportation (NICTD)	no D10 or D13 within 80 km
Dallas, TX	Dallas Area Rapid Transit (DART) Fort Worth Transportation Authority (The T)	no D10 or D13 within 80 km
Hartford, CT	Connecticut Department of Transportation (CDOT)	WTNH, D10, New Haven, CT
Los Angeles, CA	Southern California Regional Rail Authority Authority (Metrolink)	KCOP-TV, D13, Los Angeles
Miami, FL	South Florida Regional Transportation Authority (TRI-Rail)	WPLG, D10, Miami
Nashville, TN	Regional Transportation Authority (RTA)	WSMV-TV, D10, Nashville
New York, NY	New Jersey Transit Corporation (NJ TRANSIT) Metro-North Commuter Railroad Company (MTA-MNCR) MTA Long Island Rail Road (MTA LIRR)	WNET, D13, Newark
Philadelphia, PA	Southeastern Pennsylvania Transportation Authority (SEPTA) Pennsylvania Department of Transportation (PENNDOT)	no D10 or D13 within 80 km
Portland, ME	Northern New England Passenger Rail Authority (NNEPRA)	WCBB, D10, Augusta, ME
San Diego, CA	North County Transit District (NCTD)	KGTV, D10, San Diego
San Francisco, CA	Peninsula Corridor Joint Powers Board (PCJPB)	KCBA, D13, Salinas KXTV, D10, Sacramento
Seattle, WA	Central Puget Sound Regional Transit Authority (ST)	KCPQ, D13, Tacoma
Stockton, CA	Altamont Commuter Express (ACE)	KXTV, D10, Sacramento
Trenton, NJ	New Jersey Transit Corporation (NJ TRANSIT)	no D10 or D13 within 80 km
Washington, DC	Virginia Railway Express (VRE)	WBJ-TV, D13, Baltimore

4. Thus, any expansion of use of 217–218 MHz AMTS frequencies would require a showing that interference would not be caused to the direct, over-the-air reception to TV Channel 10 and TV Channel 13 viewers.

5. The current FCC Rules were designed to protect over-the-air reception of analog TV Channels 10 and 13. Since there are no longer any full-service analog TV Channel 10 or TV Channel 13 stations, only digital TV Channel 10 and digital TV Channel 10 stations, it follows that the Commission needs to update Section 80.215(h) to reflect protection of the digital 8-VSB signal. For adjacent-band interference, we expect that the coding isolation inherent in the DTV signal will more than offset the lower protected signal level (from the F(50,50) 56 dBu contour to the F(50,90) 36 dBu contour). This conclusion is based on 1995 tests by the Advisory Committee on Advanced Television Service (ACATS). Figure 3-2 to that report was a graph showing the susceptibility of a VHF DTV tuner to a narrow band interfering signal. The ACATS tests showed the threshold of visibility (TOV) for interference from a narrow band signal to have a desired-to-undesired (D/U) signal ratio of -49 dB for a narrow band signal 1 MHz above the upper channel edge. It is unclear, though, whether this D/U signal ratio would apply to the half-Intermediate Frequency ("half-IF") interference mechanism applying to TV Channel 10.

6. Even assuming a -50 dB D/U criteria for an AMTS-into-D13 interference, we suspect that a series of AMTS base stations, placed along a PLC's right-of-way, would employ relatively short towers, and there would be areas around the base station where the D/U signal ratio would exceed -50 dB, and those areas could have population in them. It is possible that the half-IF interference criteria could turn out to be a more strict protection requirement (i.e., a less negative D/U protection ratio).

7. Thus, we submit that the AMTS-into-TV Channel 13, and AMTS-into-TV Channel 10, interference rule must be updated before the Commission can make a determination of whether it would be in the public interest to repurpose AMTS frequencies for PTC. Once updated interference criteria for AMTS-into-digital Channel 13 interference has been verified to in fact be a D/U signal ratio of -50 dB, and once the criteria for AMTS-into-digital Channel 10 interference has been determined, interference studies gaging the impact of allowing CRLs to use AMTS frequencies for PTC can be properly evaluated.

II. Summary

8. The Stantec Report does not identify the interference risk to over-the-air reception that a major expansion of AMTS base stations in densely-populated urban corridors may cause to the over-the-air reception of digital TV Channel 13, and digital TV Channel 10. Until updated AMTS-into-D13 and D10 interference criteria are established, it will be difficult for the Commission to make the public interest balancing test required by the Communications Act between competing spectrum needs.

Respectfully submitted,

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