

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

In the Matter of)	
)	
Fostering Innovation and Investment in the Wireless Communications Market)	GN Docket No. 09-157
)	
A National Broadband Plan For Our Future)	GN Docket No. 09-51

REPLY COMMENTS OF PTC-220, LLC

PTC-220, LLC (“PTC-220”)¹ submits these Reply Comments regarding the Federal Communications Commission’s (“Commission” or “FCC”) Notice of Inquiry (“*Notice*”) in the above-captioned proceeding.² In the *Notice*, the Commission seeks comment on “where and how key innovations are happening” in the wireless market³ and how “new innovative uses of wireless communications [have] improved public safety and homeland security communications.”⁴ In their initial comments, many parties discussed the substantial innovation and investment occurring across many sectors of the wireless industry, including in the health care, energy, education, and public safety areas. In these Reply Comments, PTC-220 highlights for the Commission another emerging application of advanced wireless technologies that improves public safety – wireless positive train control systems being deployed across the nation’s railroad networks.

¹ PTC-220 is a joint venture of Ekanet, Inc. (a subsidiary of Union Pacific Corporation (“UP”)) and Norfolk Southern Railway Company (a subsidiary of Norfolk Southern Corporation (“NS”)).

² *Fostering Innovation and Investment in the Wireless Communications Market, A National Broadband Plan For Our Future*, Notice of Inquiry, 24 FCC Rcd 11322 (2009) (“*NOR*”).

³ *Id.* ¶ 4.

⁴ *Id.* ¶ 19.

PTC-220 is developing a nationwide, interoperable wireless communications system to support positive train control, which will be deployed along thousands of miles of track.⁵ Positive train control systems are designed to use radio frequencies to monitor train activity, prevent train collisions and worker injuries, and enhance public safety. In these systems, radio devices located onboard a train transmit and receive data to and from radio devices installed along the track and a network operations center. Information is transmitted regarding that train's location and related route data, along with additional information regarding where the train may travel safely. The integrated onboard system then automatically monitors the train's speed and location with respect to the train's area authorized for travel, also known as "authority." Positive train control systems will manage track congestion and improve safety, in part by supervising and enforcing "movement authorities" and speed limits. They will also continuously monitor and report train diagnostics, issue alarms (*e.g.*, broken rails, incorrect switch alignments), and monitor radio transmissions from "wayside" systems, among other functions.⁶

As the Commission has recognized, these wireless communications systems have "the capability to dramatically improve railroad safety by preventing train-to-train collisions, enforcing speed limits, and protecting roadway workers working near trains, among other things."⁷ Numerous railroad industry members also agree that tremendous public safety benefits

⁵ PTC-220 is the licensee for a number of nationwide and regional licenses in the 220 MHz band.

⁶ *See, e.g.*, Positive Train Control, Federal Railroad Administration, at <http://www.fra.dot.gov/us/content/784> (last accessed Nov. 5, 2009); *see also* Letter from Joseph C. Szabo, Administrator, Federal Railroad Administration ("FRA"), to Ms. Ruth Milkman, Chief, Wireless Telecommunications Bureau, FCC, ULS File Number 0003766889, at 1 (dated Oct. 9, 2009) ("FRA Letter") (supporting several applications by BNSF Railway Company ("BNSF") and SMR Management, Inc. to facilitate positive train control deployments in the 220 MHz band); Letter from Mark Schulze, Vice President – Safety, Training & Operations Support, BNSF, to Ms. Ruth Milkman, Chief, Wireless Telecommunications Bureau, FCC, ULS File Number 0003766889, at 1 (dated Oct. 16, 2009) ("BNSF Letter") (supporting the same applications).

⁷ *See Request of PTC-220, LLC for Waivers of Certain 220 MHz Rules*, Memorandum Opinion and Order, 24 FCC Rcd 8537 ¶ 13 (2009).

will accrue from wide-scale deployment of wireless positive train control systems.⁸ BNSF, for example, states that positive train control systems are “the future of railway safety and efficiency”⁹ and will be a “safety net” to improve safety and reduce the number of train accidents.¹⁰ Amtrak, the nation’s principal intercity passenger railroad, notes that positive train control systems “will enhance the safety” of its passenger trains.¹¹ Likewise, the FRA adds that “any actions that facilitate the installation and operations of these critical systems are in the best interest of the public.”¹²

The Rail Safety Improvement Act of 2008 (the Safety Act) mandates development and implementation of positive train control on “Class I” railroads by December 31, 2015.¹³ On July 16, 2009 and pursuant to the Safety Act, the FRA issued a Notice of Proposed Rulemaking (“*NPRM*”) on positive train control systems.¹⁴ After releasing the *NPRM*, Department of Transportation Secretary Ray LaHood emphasized the importance of implementing positive train control, calling it “life-saving technology” and stating that the FRA believes positive train control systems will make “freight, intercity and commuter rail lines safer for the benefit of communities across the country.”¹⁵

⁸ See, e.g., Reply Comments of PTC-220, LLC, WT Docket No. 08-256 (filed Feb. 9, 2009); Association of American Railroads (“AAR”) Comments in Support of Request for Waivers, WT Docket No. 08-256 (filed Jan. 23, 2009); American Public Transportation Association (“APTA”) Comments in Support of Request for Waivers, WT Docket No. 08-256 (filed Jan. 23, 2009); Comments of BNSF Railway, WT Docket No. 08-256 (filed Jan. 23, 2009) (“BNSF Comments”); Amtrak Comments, WT Docket No. 08-256 (filed Jan. 21, 2009) (“Amtrak Comments”).

⁹ BNSF Comments at 1.

¹⁰ See, e.g., BNSF Letter at 1-2.

¹¹ Amtrak Comments.

¹² Letter from Clifford Eby, Acting Administrator, FRA, to Marlene H. Dortch, Secretary, FCC, and Joel Taubenblatt, Deputy Bureau Chief, FCC, Wireless Telecommunications Bureau, WT Docket No. 08-256, 3 (filed Feb. 5, 2009).

¹³ See Rail Safety Improvement Act of 2008, Pub. L. No. 110-432, 122 Stat. 4848 (2008).

¹⁴ See 74 Fed. Reg. 35950 *et seq.* (July 21, 2009).

¹⁵ *FRA Issues NPRM on Technology to Prevent Train Collisions*, Federal Railroad Administration, at <http://www.fra.dot.gov/us/press-releases/242> (last accessed Nov. 5, 2009).

The Senate Commerce, Science, and Transportation Committee has also remarked that “[i]n addition to providing a greater level of safety, [positive train control] systems may also enable a railroad to improve scheduling operations, running time, reliability, asset utilization, and track capacity.”¹⁶ Thus, positive train control systems not only can save lives, enhance rail safety, and reduce the likelihood of train collisions and other rail accidents in the future, but also can help railroads improve efficiency.

As the FRA states, railroads are undertaking a “massive effort,” with a “significant investment of manpower and other resources” to deploy positive train control systems.¹⁷ To date, PTC-220 and its members have been working with numerous companies to develop viable, interoperable positive train control equipment. For example, PTC-220 and its members have worked with Westinghouse Air Brake Company, AnsaldoSTS (Union Switch and Signal), Safetran Systems, General Electric Microwave Data Systems (“MDS”), ARINC, and Meteor Communications Corp. (“MeteorComm,” owned by BNSF) to develop: (1) wayside interface units for existing signal systems; (2) onboard safety critical positive train control systems; (3) positive train control back office servers; and (4) prototype communications equipment.

To provide nationwide interoperability, railroads will need the ability to utilize “shared communications links with sufficient bandwidth, operating at common frequencies that are not subject to interference.”¹⁸ Thus, the rail industry (including UP and NS) has been working with MDS and MeteorComm on radio equipment for positive train control systems (particularly in the 220 MHz band), and both companies are currently engaged in testing equipment and protocols

¹⁶ S. REP. NO. 110-270, 5 (2008).

¹⁷ See FRA Letter at 2; see also Letter from Louis P. Warchot, Senior Vice President – Law and General Counsel, AAR, to Ms. Ruth Milkman, Chief, Wireless Telecommunications Bureau, FCC, ULS File Number 0003766889, at 2 (dated Sept. 15, 2009) (supporting several applications by BNSF and SMR Management, Inc. to facilitate positive train control deployments in the 220 MHz band).

¹⁸ FRA Letter at 1.

developed specifically for interoperable positive train control communications.¹⁹

Representatives from PTC-220 have also participated in numerous meetings with the FRA and other railroad industry representatives regarding the development of interoperable positive train control systems.²⁰ In June 2009, the FRA released a report titled *Interoperable Communications-Based Signaling Project*.²¹ In its report, the FRA concluded that the major suppliers of signaling equipment for the North American railroads can indeed modify their existing safety-critical equipment to support the operation of a “vital” interoperable positive train control system.²²

Although wireless positive train control technology is still under development and must be finalized and approved by the FRA before nationwide deployment, PTC-220’s members are already using 220 MHz spectrum to facilitate positive train control pilot programs in the Western, Midwestern, and Southern regions of the country. In Southern California, PTC-220 member UP is working to construct a positive train control network covering its territory, which serves Metrolink, a regional commuter rail system linking the Los Angeles basin.²³ The territory includes Los Angeles, Riverside, Orange, and San Bernardino counties. Starting with the Metrolink area, PTC-220 and its members intend to continue building out, region-by-region,

¹⁹ The MeteorComm testing program is overseen by the AAR Wireless Communications Committee. PTC-220 also notes that MeteorComm currently has FRA funding to test certain aspects of positive train control systems.

²⁰ For example, UP and NS representatives have been actively involved in the monthly sessions of the Interoperable Train Control Committee and the PTC Working Group (a subcommittee of the FRA’s Rail Safety Advisory Committee). PTC-220 representatives have also engaged in multiple discussions with equipment manufacturers and railroad industry organizations such as AAR and the APTA regarding standardization and interoperability issues.

²¹ *Interoperable Communications-Based Signaling Project Federal Railroad Administration*, Report Number DOT/FRA/ORD-09/12, Federal Railroad Administration, at <http://www.fra.dot.gov/downloads/Research/ord0912.pdf> (last accessed Nov. 5, 2009).

²² *Id.*

²³ See “Freight railroads pledge to install advanced safety measures by 2012,” Los Angeles Times (Oct. 9, 2008), available at <http://www.latimes.com/news/printedition/california/la-me-metrolink9-2008oct09,0,5279929.story> (last accessed Nov. 5, 2009).

based on risk-prioritized variables (*e.g.*, traffic and passenger density, complexity of rail operations, and hazardous materials transportation), until the positive train control network is complete. UP has also deployed for testing two other pilot routes, one from Spokane, Washington to Eastport, Idaho, and one from North Platte, Nebraska to Bill, Wyoming, to evaluate positive train control technology. PTC-220 member NS also has two separate but contiguous pilot routes running from Charleston, South Carolina to Columbia, South Carolina, and then from Columbia, South Carolina to Charlotte, North Carolina.

Numerous wireless positive train control technologies are being developed, and these systems hold the promise of bringing many critical, life-saving public interest benefits as well as greater efficiencies to railroad operations. As the Commission continues to explore ways to maintain and expand innovation and investment in the wireless industry, therefore, it should encourage the development and deployment of positive train control systems and the wireless communications networks necessary for their successful implementation wherever possible.

Respectfully submitted,

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