

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

**In the Matter of** )  
 )  
**Request of PTC-220, LLC for Waivers of** ) **WT Docket No. 08-256**  
**Certain 220 MHz Rules** )  
 )  
**Construction Progress Report** )

**To: Chief, Wireless Telecommunications Bureau**

**PTC-220, LLC**  
**CONSTRUCTION PROGRESS REPORT**

**I. INTRODUCTION**

PTC-220, LLC (“PTC-220”) submits this Construction Progress Report to satisfy the requirements of paragraph 16 of the Memorandum Opinion and Order (“*Waiver Order*”) adopted by the FCC on June 25, 2009.<sup>1</sup> This Report details the progress made to date in implementing the Systemwide Build-out Plan (the “Build-out Plan”) submitted by PTC-220 on November 1, 2010 in the above-referenced docket. The Build-out Plan explained how PTC-220’s 220 MHz licenses (“Licenses”) would be used in deploying a nationwide positive train control (“PTC”) system, as required by Federal statute. The construction of the Licenses will be undertaken in large part by each of PTC-220’s member railroads, BNSF Railway Company (“BNSF”), CSX Corporation (“CSX”), Norfolk Southern Corporation (“NS”), and Union Pacific Corporation (“UP”), although PTC-220 will also coordinate construction activities by non-member railroads.

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<sup>1</sup> *Request of PTC-220, LLC for Waivers of Certain 220 MHz Rules*, Memorandum Opinion and Order, 24 FCC Rcd 8537 (2009).

## II. SITE BUILD-OUT ACTIVITY

As explained in Section II.B of the Build-out Plan, the actual installation of PTC radios, including base stations and wayside stations, will not begin until the radios are available in production quantities sometime in 2012. However, PTC-220's member railroads are well underway in preparing sites for the installation of radio equipment. This advance preparation includes any or all of the following tasks: coverage predictions, site selection, installation of antenna systems, structural upgrade of antenna structures, upgrade of site power supplies, and clearing rack space for the radios. The table below shows by state the number of base station sites where the preparatory work is complete or substantially complete.

<b>State</b>	<b>BNSF</b>	<b>CSX</b>	<b>NS</b>	<b>UP</b>
AL		14	9	
CA	4			53
FL		3		
GA		8		
IL	9	6		
IN		16		
KS	10			
KY		7		
LA			2	
MA		1		
MS			9	
NC		11	1	
NE				6
NY		10		
OH		19		
PA		2		
SC		3	9	
TN		5		
VA		18		

WA	30			3
WV		1		
WY				3

Wayside radios, where used, will be deployed along with their associated base sites, as described in Section II.C of the Build-out Plan. Any necessary wayside preparatory work is also proceeding roughly in parallel with base station site work.

### III. HIRING OF FREQUENCY COORDINATOR

On January 11, 2011, PTC-220 entered into a contractual relationship with the Transportation Technology Center, Inc. (“TTCI”), a wholly-owned subsidiary of the Association of American Railroads (“AAR”), to collaborate with BNSF, UP, NS and CSX in performing radio frequency coordination of the 220 MHz PTC spectrum. Included in this agreement will be frequency and coverage design for base stations and wayside units as well as base station site selections in the larger, multi-railroad urban areas. Additionally, TTCI's responsibilities include:

- PTC communications load modeling
- Propagation analysis
- Interference mitigation
- Determining required transmitter characteristics
- Frequency reuse planning
- Issuing site authorizations to railroads
- Developing and maintaining a PTC-specific frequency coordination database (similar to that used by TTCI for coordinating AAR spectrum)
- Developing a communications load and compliance monitoring system for fixed sites
- Generating reports as required

#### **IV. EQUIPMENT DEVELOPMENT**

Meteorcomm LLC (“Meteorcomm”), PTC-220’s radio design vendor,<sup>2</sup> continues to make progress in developing a prototype data radio technology platform to meet the requirements for the PTC communications system. However, Meteorcomm is currently experiencing some delays in the development of the wayside, locomotive, and base station radios. Hardware delays have resulted from engineering change orders as well as supply chain issues, while firmware integration challenges and general software development pace are also impacting the schedule. As a result of these delays, the expected delivery of pre-production radios for internal Meteorcomm evaluation has been pushed from Q3 2011 to Q4 2011. Meteorcomm has analyzed the root cause of the delays and is implementing strategies to mitigate the effect of these issues on the overall timeline.

#### **V. LOS ANGELES BASIN ACTIVITY**

As PTC-220 has previously informed the Commission, the Los Angeles Basin is a high priority for the deployment of PTC, with BNSF and UP having announced a goal of initiating PTC service in this area by December 31, 2012.<sup>3</sup> The PTC-220 Spectrum Management Committee, along with BNSF and UP, are working with the Southern California Regional Rail Authority (“SCRRA”) to determine the system design and base station locations for the 220 MHz radio system to support operations in the Los Angeles area. An RF system model has been

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<sup>2</sup> Meteorcomm, a provider of wireless data solutions, shares common ownership with PTC-220.

<sup>3</sup> See, e.g., Comments of PTC-220, LLC, WT Docket No. 10-83 (filed April 28, 2010) at 3 (citing “*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>).

developed, which includes all of the planned 220 MHz radios in the area in a single RF performance prediction model.

This collaboration is a pioneering effort to determine the best methods to organize the sharing of PTC communication infrastructure – including spectrum assets – in a multi-railroad, dense traffic area. SCRRA has received a grant from the Federal Railroad Administration to report on the approaches used and lessons learned during the development of the PTC radio system for the Los Angeles area.

## **VI. PREPARATION OF LEGAL DOCUMENTS**

PTC-220 has made significant progress in preparing the legal documents that will be necessary to implement PTC throughout the country. Specifically, PTC-220 has prepared a spectrum lease agreement to be entered into by each of PTC-220's four members, as well as a template spectrum lease agreement drafted for use by non-member railroads. In addition, in anticipation of the cooperative arrangement with SCRRA described above, counsel has prepared a draft spectrum sharing agreement and associate lease agreements which may be used in connection with the Automated Maritime Telecommunications System ("AMTS") spectrum that SCRRA has applied to obtain for PTC usage in the Los Angeles Basin area.<sup>4</sup>

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<sup>4</sup> See ULS File Nos. 0004153701 and 0004144435.

## VII. CONCLUSION

As described above, PTC-220 is making steady progress in implementing its Build-out Plan. While equipment development has not proceeded as quickly as expected, PTC-220 foresees no obstacle in satisfying its 2014 deadline for providing substantial service.

Respectfully submitted,

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