

**Before the
U.S. DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration**

Washington, D.C. 20230

<i>In the Matter of</i>)	
)	
The President’s Spectrum Policy Initiative)	Docket No.
Spectrum Sharing Innovation Test-Bed)	060602142-6142-01
)	
Notice of Inquiry)	

COMMENTS OF PROGENY LMS, LLC

Progeny LMS, LLC (“Progeny”) supports the President’s Spectrum Policy Initiative’s call to optimize the use of U.S. spectrum assets between federal and non-federal users.¹ Progeny lauds the efforts of the National Telecommunications and Information Administration (“NTIA”) to help achieve this critical component of the nation’s spectrum strategy for the 21st century. The U.S. Department of Commerce has recommended a joint effort between the NTIA and the Federal Communications Commission (“FCC”) to develop a Spectrum Sharing Innovation Test-Bed (“Test-Bed”) to examine how to increase sharing between Federal and non-Federal users.² NTIA’s Notice of Inquiry (“Notice”) seeks public comments on ways it can implement the Test-

¹ *Presidential Memorandum on Spectrum Policy for the 21st Century*, 69 Fed. Reg. 1568 (January 6, 2004).

² U.S. DEPARTMENT OF COMMERCE, SPECTRUM POLICY FOR THE 21ST CENTURY – THE PRESIDENT’S SPECTRUM POLICY INITIATIVE: REPORT 1: RECOMMENDATIONS OF THE FEDERAL GOVERNMENT SPECTRUM TASK FORCE 26 (June 2004) (*President’s Federal Spectrum Policy Report*) available at http://www.ntia.doc.gov/reports/specpolini/presspecpolini_report1_06242004.pdf.

Bed recommendation.³ Progeny submits these comments to support the NTIA's development of a plan to implement this recommendation.

Introduction

Progeny has a long-standing interest in the types of flexibility and enhanced sharing issues that are raised for consideration in NTIA's Notice. Progeny is the largest commercial license-holder of Multilateration-Location and Monitoring Service (M-LMS) licenses at 902-928 MHz, with 8 MHz of bandwidth in Economic Areas (EAs) covering a United States population of 235 million. Progeny holds 228 B and C block licenses in 113 EAs and A block licenses in two additional EAs.

The 902-928 MHz band in which Progeny is licensed to operate provides an excellent example of a complex spectrum sharing hierarchy that can work in the public interest. This band provides one example that sharing is possible if sound technical regulations are in place to maximize spectrum use while protecting against harmful interference. Specifically, the 902-928 MHz band is allocated among the following federal and non-federal users: (1) Federal radiolocation systems and Industrial, Scientific and Medical (ISM) equipment may provide service on a primary basis.⁴ (2) Federal fixed and mobile services are secondary to federal radiolocation systems and ISM equipment.⁵ (3) LMS licensees are secondary to federal users and ISM devices, and may not cause

³ National Telecommunications and Information Administration, *The President's Spectrum Policy Initiative Spectrum Sharing Innovation Test-Bed*, Notice of Inquiry, 71 Fed. Reg. 33282, Docket No. 060602142-6142-01 (June 8, 2006) (*Notice*).

⁴ 47 C.F.R. §§ 2.106, 18.301, 18.111(c).

⁵ 47 C.F.R. §§ 2.106 n. G11.

interference to and must tolerate interference from, these users and devices.⁶ (4) Amateur radio operations may operate on a secondary basis to LMS.⁷ (5) Unlicensed devices are authorized under Part 15.⁸

Overview

The Test -Bed initiative, along with other innovative methods devised by the United States, should provide a boost toward achieving its spectrum policy goal of effective and efficient use of the country's finite spectrum assets. The President's Federal Spectrum Policy Report ("Spectrum Policy Report") details the difficulty of determining rules for spectrum due to the evolving nature of the technology. It directs NTIA, in conjunction with the federal agencies, the FCC, and industry to "develop modern spectrum management tools" that would reduce the time needed "to coordinate new spectrum uses with incumbents and to perform required analyses of potential interference associated with emerging spectrum dependent technologies and services."⁹ The Spectrum Policy Report notes the length of the regulatory processes undertaken by both the FCC and the NTIA to develop rules to accommodate new spectrum technologies.¹⁰ These factors call for more balanced approaches to spectrum policy that allow for federal and non-federal users to take advantage of new technologies while still

⁶ 47 C.F.R. § 90.353(a).

⁷ 47 C.F.R. § 97.301.

⁸ 47 C.F.R. § 97.361.

⁹ *President's Federal Spectrum Policy Report* at 26.

¹⁰ *Id* at 24.

maintaining the interference protection goals that currently influence the FCC and NTIA processes.

More balanced, forward-looking regulatory processes for spectrum management are dependent, in part, on regulators having the technical data to allow the latest state-of-the-art wireless technology to be deployed in a shared environment. The Test-Bed could provide that level of comfort so regulators can quickly assess the viability of sharing technologies and implement rules that allow for more rapid deployment of new services. The real world experiences that regulators gain with sharing environments from the Test-Bed can lead to the adoption of procedures that would streamline the process for approving new technologies. More efficient rulemaking processes are essential for the country's continuing efforts in developing more integrated and effective homeland security and public safety applications, promoting U.S. economic growth and maintaining its retention of world-leadership status in innovation.

Real World Data Needed on Spectrum Sharing

The Notice seeks comments on identification of the technologies and sharing techniques that should be implemented in the Test-Bed.¹¹ Progeny believes that the Test-Bed could advance the use of smart antenna technology to promote better sharing. Advanced antenna technology was specifically cited as an example of technology that could be considered in the Notice.¹² Deploying smart antennas in the Test-Bed could provide the NTIA with real world data that demonstrates how technology can drive more efficient spectrum sharing.

¹¹ *Notice* at 33283.

¹² *Id.*

The Notice also seeks comments on identification of services that should be implemented in the Test-Bed.¹³ Progeny supports geo-location, high-power broadband, public safety interoperability, and mobile mesh networking as candidate services for inclusion in the Test-Bed. Indeed, the Notice cited these as examples of services that could be included in the Test-Bed.¹⁴ These services will continue to benefit from rapid technological innovation in the next ten years and will need increased access to finite spectrum resources, including on a shared basis with other users. These spectrum-based applications will serve commercial, public safety, homeland security and defense-related requirements. Thus, they make desirable candidate services for the Test-Bed.

Progeny supports structuring the Test-Bed to evaluate sharing between different kinds of services and between federal and commercial users. The Test-Bed must emulate a real-world environment that demonstrates how multiple types of users, both federal and non-federal, and licensed and unlicensed, coexist within the same spectrum band without unduly interfering with one another. Both federal and commercial users face exponential growth in spectrum demand over the next decade. No “vacant” spectrum exists. The time and agency resources needed to clear spectrum is extraordinary. Hence, enhanced sharing technologies developed via a robust Test-Bed that models complex real world environments will yield extraordinary commercial and security benefits to the United States.

The Notice also seeks identification of candidate bands in the Test-Bed. Progeny defers to the expertise of the NTIA and FCC on this issue. Progeny suggests that data

¹³ *Id.*

¹⁴ *Id.*

gathered from sharing scenarios in a range of bands using a range of technologies should be used to supplement the “green field” approach that is the centerpiece of the Test-Bed program. The Test-Bed initiative is an important part of the nation’s longer term planning for new radio technologies and can play an important role in helping NTIA and the FCC streamline their regulatory processes. Progeny strongly believes that doing so will promote the advancement of new technologies and services for both commercial and federal uses and will contribute to the realization of the goals behind the President’s spectrum policy initiatives for the 21st century.

Respectfully,

/s/ Janice Obuchowski

Janice Obuchowski
Counsel
Progeny LMS, LLC

July 10, 2006

Certificate of Service

I, Janice Obuchowski, hereby certify that I have, on this 10th day of July 2006, emailed the foregoing *Comments* to testbed@ntia.doc.gov for the following party.

Office of the Chief Counsel
National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Ave, NW
Room 4713
Washington, DC 20230
testbed@ntia.doc.gov