

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

In the Matter of

Request by Progeny LMS, LLC, for waiver of
certain multilateration location and monitoring
service rules.

WT Docket No. 11-49

Progeny LMS, LCC Demonstration of
Compliance with Section 90.353(d) of the
Commission's Rules

Order that Progeny may commence commercial
operations of its position location service
network.

Petitions for Reconsideration Filed by The Part
15 Coalition, Silver Spring Networks, et al

Via the ECFS

THE VIEWS OF IEEE 802

1. IEEE 802¹ respectfully submits its views in the above-captioned Proceeding² in support of those filing Petitions of Reconsideration regarding the Commission's Order on the Progeny M-LMS request for waiver.
2. IEEE 802, as a leading consensus-based industry standards body, produces standards for wireless networking devices, including wireless local area networks ("WLANs"), wireless personal area networks ("WPANs"), wireless metropolitan area networks ("Wireless MANs"), and wireless regional area networks ("WRANs"). Included in our standards development activity is an emphasis on coexistence, which is the focus of our Wireless Coexistence working group.

¹ The IEEE Local and Metropolitan Area Networks Standards Committee ("IEEE 802" or the "LMSC").

² This document represents the views of IEEE 802. It does not necessarily represent the views of the IEEE as a whole or the IEEE Standards Association as a whole.

INTRODUCTION

3. On January 27, 2012, Progeny LMS, LLC (“Progeny”) filed a report in WT Docket No. 11-49 seeking to demonstrate that its Multilateration Location and Monitoring Service (“M-LMS”) network does not cause unacceptable levels of interference to Part 15 devices in the 902-928 MHz band.
4. IEEE 802 has a particular interest in the 902-928 MHz band, since the IEEE 802.11 Working Group (“802.11”) is developing an amendment to the base standard for sub-1 GHz operation of WLANs targeting this band. Further, the IEEE 802.15 Working Group (“802.15”) has now finalized an amendment to the IEEE 802.15.4 base standard for WPANs specifically targeted at Smart Grid applications in this band; previous equipment designed to comply with IEEE 802.15.4 is widely deployed in the marketplace.
5. In addition, we note that IEEE 802 has previously filed comments opposing the operation of M-LMS services in the 902-928 MHz band.

IEEE 802 AGREES WITH FILERS OF PETITIONS FOR RECONSIDERATION ON A NUMBER OF KEY POINTS

6. **The Commission Improperly Converted Progeny’s Waiver Request into an Unannounced Rulemaking to Reduce Interference Protection for Part 15 Devices in the 902-928 MHz Band.**

It is well established that Part 15 devices are not entitled to protection from interference. In this band, however, the Commission adopted *specific interference rules designed to maintain coexistence of many varied users in the band, including Part 15 users.*

Petitioners have pointed out that this Order does not waive any of those rules. Included in these rules is the obligation, set forth in Section 90.353(d) that Progeny *demonstrate through actual field tests that its M-LMS system will not cause unacceptable levels of interference to Part 15 devices*³.

7. **The Commission Failed to Ensure Progeny Met Its Requirement to Conduct “Actual Field Tests”.**

In *LMS Recon Order* ¶ 15, the Commission itself avoided specific discussion of the test results, neglecting to acknowledge that even Progeny recognizes that some Part 15 devices might experience severely degraded service. *See, e.g.*, Mar. 4, 2013 WISPA Ex Parte at 3 (noting that “the Joint Test Report shows that WISP customers would experience a 47.9

³ 2011 Waiver Order ¶ 25 (citing *Amendment Of Part 90 Of The Commission's Rules To Adopt Regulations For Automatic Vehicle Monitoring Systems*, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, PR Docket No. 93-61, 12 FCC Rcd. 13968, ¶ 69 (Aug. 28, 1997)).

percent throughput loss in the downstream direction and *simultaneously* a 41.5 percent throughput loss in the upstream direction, for a total throughput loss of **89.4 percent**)⁴.

8. The Commission’s June 6 Order Undermines Important Public Policies, Including the Public Interest in Ensuring Continued Viability of 902-928 MHz for Energy Network Operations.

Unlicensed activities in the 902-928 MHz band create enormous economic value. The Department of Energy has estimated that smart grid deployments in the United States have contributed \$4.2 billion to the nation’s gross domestic product as well as supported 47,000 jobs⁵.

The US is currently a world leader in developing and exporting wireless technologies; availability of unlicensed sub-1 GHz spectrum plays a large role in maximizing societal and economic value.

As noted in a 2012 economic study, the lack of such spectrum in Europe for smart grid deployments alone may result in a cost of up to \$241 billion for delays in developing, permitting, and deploying replacement technologies⁶.

9. Progeny’s Operations Must Be Subject to Sufficient Safeguards to Ensure Shared Use of 902-928 MHz.

The waiver as it stands not only permits Progeny to operate with greater potential interference to Part 15 devices; it also fails to require Progeny to take any affirmative steps to minimize detrimental effects on Part 15 devices. The Commission should require several simple conditions that formalize basic “shared spectrum etiquette” that will greatly improve the ability of Part 15 devices to coexist with Progeny’s system.

The Progeny system should be operated only upon demand, *e.g.*, when a Progeny customer requires positioning. This would eliminate the clearly unintended operation as an *intentional* interferer to others in this highly shared and economically invaluable spectrum.

In addition, the Commission should immediately accept the conditions proposed by the Part 15 Coalition on May 30, 2013⁷. The Part 15 Coalition requested that Progeny:

- Give advance notice of deployment of new beacons.

⁴ Letter from Bruce A. Olcott, Counsel to Progeny LMS, LLC, and Stephen E. Coran, Counsel to WISPA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 11-49, Progeny LMS, LLC & Wireless Internet Service Providers Association Part 15 Joint Test Report (Oct. 31, 2012) (“Progeny/WISPA Joint Test Report”).

⁵ Department of Energy, *Economic Impact of Recovery Act Investments in the Smart Grid* (April 2013), available at <http://energy.gov/sites/prod/files/2013/04/f0/Smart%20Grid%20Economic%20Impact%20Report%20-%20April%202013.pdf>.

⁶ See Richard Thanki, *The Economic Impact of Licence-Exempt Spectrum*, 68-72 (June 2012), available at [http://download.microsoft.com/download/A/6/1/A61A8BE8-FD55-480B-A06F-F8AC65479C58/Economic Impact of License Exempt Spectrum - Richard Thanki.pdf](http://download.microsoft.com/download/A/6/1/A61A8BE8-FD55-480B-A06F-F8AC65479C58/Economic%20Impact%20of%20License%20Exempt%20Spectrum%20-%20Richard%20Thanki.pdf) (estimating that the lack of unlicensed spectrum in Europe for smart grid deployment could impose a cost of up to \$241 billion due to delays alone as replacement technologies are developed, permitted, and deployed).

⁷ May 30, 2013 Part 15 Coalition Ex Parte.

- Cooperate with affected parties in mitigating potential interference.
- Make information about beacon location and operations publicly available.

These conditions are not burdensome and are a simple step that the Commission should take to dramatically improve the success of future sharing between Progeny's modified systems and existing Part 15 users.

10. Progeny's waiver and operations sets precedence for other M-LMS licensees to receive the same waiver and deploy similar systems in their licensed areas.

If the other M-LMS license holders receive the same waiver and set up similar systems in the A block, including Progeny's B and C blocks there is potentially 13.25 MHz, which is more than 50% of the 902-928 MHz band, that would be interfering with presently deployed Part 15 networks.

Utilization of the 902-928 MHz band has grown over the past 20 years. The user community, including Critical Infrastructure operations, has deployed and continues to deploy systems assuming that M-LMS operation was subject to the original rules including the Safe Harbor Provision.

In our view, the Commission's order creates regulatory uncertainty in this band, especially for Critical Infrastructure operations like smart metering and other smart grid deployments. Regulatory certainty is expected by anyone developing equipment and systems.

CONCLUSION

11. IEEE 802 encourages the Commission to:

- Vacate the *Order* of June 6, 2013, and deny the requested relief without prejudice to Progeny's ability to renew its request.
- Confirm that the M-LMS rules adopted in 1995 continue to govern operation of M-LMS devices in the 902-928 MHz band.
- Reaffirm that M-LMS licensees in the 902-928 MHz band are required "to demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to 47 CFR part 15 devices".
- Mandate that Progeny satisfactorily demonstrate that its system can coexist with other occupants in the 902-928 MHz band.

Respectfully submitted,

/s/ Paul Nikolich

Paul Nikolich

Chair, IEEE 802 LAN/MAN Standards Committee
IEEE802radioreg@ieee.org