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COUNSEL

February 24, 2003

**BY HAND**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12th Street, SW  
Washington, D.C. 20554

**Re: RM-10403**  
**Petition for Rulemaking of Progeny LMS, LLC**  
**For Amendment of Part 90 of the Commission's Rules**  
**Governing the Location and Monitoring Service**

Dear Ms. Dortch:

FreeWave Technologies, Inc. ("FreeWave"), submits these comments in response to the White Paper submitted by Progeny LMS, LLC ("Progeny") in the above-referenced proceeding.<sup>1</sup> FreeWave opposes Progeny's request for changes in the Location and Monitoring Service ("LMS") rules and urges the Commission to dismiss the above-referenced Progeny petition.

FreeWave designs, manufactures, and markets Part 15 spread spectrum radios that operate in the 902-928 MHz. FreeWave's radios are used for a variety of industrial, scientific, commercial, and recreational applications, including:

- Monitoring volcanic activity to provide early warnings to persons living near volcanoes.
- Monitoring seismic activity (currently the San Andreas fault is monitored by the U.S. Geological Survey using Part 15 devices).

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<sup>1</sup> See "LMS Compatibility with Part 15 Devices: The Case for Spectrum Flexibility," White Paper, RM-10403 (submitted Oct. 10, 2002) ("Progeny White Paper").

- Collecting data for oil and natural gas wells.
- Monitoring and controlling pipelines, which are a critical part of the infrastructure of this country (a significant amount of the natural gas used in this country is gathered from wells and delivered through pipelines that are monitored and controlled using Part 15 devices).
- Providing critical information on clean water systems that supply drinking water to most metropolitan cities in the U.S.
- Implementing smart traffic systems that control the timing of traffic lights and the flow of traffic in metropolitan areas around the country.
- Monitoring electric substations, which is critical to the electric power grid.
- Numerous government and military applications, many of which involve national security.

Progeny's proposals to expand the permitted uses of LMS in the 902-928 MHz band and to eliminate the safe harbor provision of Section 90.361 threaten the continued existence of these types of unlicensed systems already deployed in the band.<sup>2</sup> Based on the Commission's existing rules and the safe harbor protection, numerous Part 15 device manufacturers, and their customers, have deployed millions of unlicensed devices in the 902-928 MHz band at a cost of hundred of millions of dollars. The protections afforded these systems by the Commission's existing rules will be essential to the continued operation and coexistence of Part 15 devices in the 902-928 MHz band for years to come.

The Progeny White Paper concludes that "LMS systems do not present an interference risk to Part 15 devices significantly greater than the inherent interference risk from other Part 15 devices."<sup>3</sup> This assurance is of little consolation to Part 15 device manufacturers and users. The issue is not only whether the expanded LMS operations that Progeny proposes represent an interference risk to Part 15 devices (which they do), but also whether such expanded LMS operations will increase spectrum congestion in the already crowded 902-928 MHz band (which they will). Should the Commission lift the restrictions on the types of services that LMS operators may provide and eliminate the safe harbor provision, the resulting congestion in the 902-928 MHz band will be catastrophic to Part 15 users.

Current restrictions on LMS operations in the 902-928 MHz band permit Part 15 operators in the same band to provide services in geographically diverse areas. Many of FreeWave's customers are located in rural, sparsely populated areas of the country. Part 15 radio applications in such areas require installations that do not fall into the

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<sup>2</sup> The safe harbor provision of Section 90.361 currently exempts eligible Part 15 devices from being considered sources of harmful interference to multilateration LMS systems. *See* 47 C.F.R. § 90.361.

<sup>3</sup> Progeny White Paper at 16.

additional safe harbor provision found in Section 90.353(a).<sup>4</sup> In the past potential conflict with LMS service did not happen simply because LMS systems were not deployed in such areas.

Under Progeny's proposal, however, an LMS licensee in these rural areas would have a huge financial incentive to install a radio network, allege interference, shut down or severely restrict the Part 15 users, and then offer its radio network as an alternative. Moreover, elimination of safe harbor provision of Section 90.361 would have the effect of making Progeny and other LMS providers the judge and jury in any interference dispute, whether real or imagined. This situation inevitably would create a conflict of interest, as LMS providers would have both the incentive and the means to generate new revenue and help their own bottom line by shutting down Part 15 users.

Finally, under the Commission's present LMS rules, the nature of LMS operation itself tends to mitigate against interference susceptibility from Part 15 transmitters. This is due to the fact that current LMS systems transmit only a very small amount of data (*i.e.*, a vehicle's location and status) over a wide bandwidth channel. The large effective processing gain of such a communication system can provide substantial interference rejection when designed properly. In contrast, if Progeny's proposal is accepted, LMS systems will be used to transmit large amounts of data, reducing the effective processing gain, and making interference mitigation essential. The technical challenges of overcoming interference when LMS is used for other data applications most likely would be severe enough for Progeny to seek further regulatory relief from Part 15 transmitters.

Progeny's proposal and accompanying White Paper represent a radical departure from long-standing Commission policies with respect to the 902-928 MHz band. The existing rules promote cooperation between users and encourage spectrum efficiency in an already crowded band. Progeny's proposal will result in more intensive use of the 902-928 MHz band and will increase the potential for harmful interference to Part 15 devices by allowing continuous transmission at high power levels, thereby causing severe spectrum congestion. Progeny has offered no justification for placing millions of Part 15 device users at such considerable risk other than easing its burden making a success of a business that it entered with full awareness of the technical rules applicable to LMS.

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<sup>4</sup> The safe harbor provision of Section 90.353(a) provides that LMS operators will not cause harmful interference to and must tolerate interference from industrial, scientific, and medical devices and radiolocation government stations that operate in the 902-928 MHz band. *See* 47 C.F.R. § 90.353(a).

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For the foregoing reasons, FreeWave asks the Commission to reject Progeny's proposal to amend the LMS rules.

Respectfully submitted,

A handwritten signature in black ink that reads "Henry Goldberg". The signature is written in a cursive style with a large, prominent "H" and "G".

Henry Goldberg

Joseph A. Godles

*Attorneys for FreeWave Technologies, Inc.*