Progeny's Claim	Reality
Testing is done.	**Initial testing has definitively revealed that additional testing (of both indoor and outdoor devices) is necessary.**
Part 15 devices are as capable of withstanding the effects of Progeny as they are withstanding other Part 15 devices.	**Unlicensed users are accustomed to sharing the band with other unlicensed devices, which typically operate a low duty cycles and at 1 W (and no more than 4 W EIRP) power. This is far different from co-existing with a licensed system that operates at 30 W ERP (and possibly later at up to 300 W ERP in the upper part of the band) and up to 80% duty cycle, and which will have no incentive to cooperate with Part 15 once allowed to operate.**
The throughput degradation caused by Progeny's network was only a small fraction of the overall degradation experienced from other sources and natural conditions.	**Progeny's claim is unsupported by any facts and unsupported by throughput comparison testing in an indoor screen room (noise-free) environment. By contrast, the actual measured throughput degradation caused by the operation of Progeny's network on WISPs throughput was demonstrably significant in the presence of the ambient, real-world noise.** **Throughput reduction appears low only when test results are averaged.**
The Progeny system employs a 15-20% duty cycle.	**Where multiple beacons are employed (such as in San Jose), 8 of the 10 Progeny time slots are used (with the remaining 2 reserved for what we understand is indoor beacon use, although additional second round testing in October showed 90-100% use). These high duty cycles were confirmed using a spectrum analyzer "waterfall" display during the San Jose testing. These duty cycle figures were not disputed by Progeny.**
Progeny does not cause unacceptable interference to WISP devices.	**When testing on the same frequencies, Progeny's system caused a 40-50% loss in throughput, meaning 50% of a WISP's customers would lose service or the speed all of the WISP broadband customers would be cut in half. These are completely unacceptable effects that would have a disastrous effect on consumer service.**

Progeny and WISPA engineers were "unable" to establish reliable Canopy links that exceeded 2.3 miles and Ubiquiti links that exceeded 1.5 miles.	**This statement by Progeny (October 31 letter) is false. These test distances were chosen because Progeny's very short, limited test time window did not permit the selection of additional sites at longer test distances and forced the rushed selection of a short test path with clear line-of-sight to the single, east foothills hilltop test location. The fade margin measurements of 12 dB made during testing over the chosen 2.3 mile link distance test path indicated that a stable test could have been conducted over a much longer path – up to 9.2 miles or more – had Progeny's test time window allowed additional time to test from additional, more distant, sites.**
When Progeny's network was turned on, the Canopy and Ubiquiti systems continued to operate using the same link distances without any interruption to the data session or link stability. The BWA systems instead evidenced further reductions in data throughput, averaging a 24.4% reduction across all of the co-frequency tests.	**Calculating and presenting an "average" data throughput reduction represents a mischaracterization of the test results by Progeny. Actual throughput reductions maxed out at 49% for Canopy and 48% for Ubiquiti. Real-world customers don't experience "average" data loss; they experience the severe impacts of maximum packet data and throughput loss.**
System testing is a valid means of determining the effect of Progeny on Itron's system.	**System testing is valid only when the system tested is truly representative of a real-world system. Here, it would have required months to set up thousands of different Itron endpoints and repeaters in a wide-range of locations throughout San Jose. Progeny's "systems" test involved only a small number of CCUs, repeaters and endpoints and, collected insufficient amounts of data from too few geographic locations.** **As opposed to system testing, Packet Error Rate ("PER") testing provides statistically significant data and is used globally to accurately characterize an RF environment. The limited PER tests in San Jose showed the difficulty of co-existing co-frequency.**
Itron only loses 8.1% throughput due to Progeny.	**This is an incorrect conclusion based on flawed systems testing data, which does not reflect real world performance.**
Frequency hopping devices will withstand or avoid interference from Progeny.	**Not all unlicensed devices are frequency hoppers. Digitally modulated unlicensed devices do not**

	hop and some in the field may be "hard-wired" to operate only on Progeny's frequencies. **Moreover, not all frequency-hopping legacy devices can be reprogrammed or re-engineered to avoid Progeny's frequencies.** **Some frequency hopping systems will expend additional energy hopping through Progeny's unusable channels, the results of which could include draining battery life and reducing device life cycle.** **This ignores the compression effect that would be created by Progeny's operations, as 85% of the non-Progeny portion of the band would become more crowded.**
Progeny should be allowed to commence operations.	**The FCC must be wary of setting the precedent of allowing one M-LMS licensee to take away 4 MHz of spectrum from unlicensed devices, precedent that would apply to other M-LMS licensees.** **Progeny has been shown to cause substantial and unacceptable interference to most unlicensed devices. The FCC should deny Progeny's request to commence operations.**