

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Request by Progeny LMS, LLC for Waiver of)	WT Docket No. 11-49
Certain Multilateration Location and Monitoring)	
Service Rules)	
)	
Progeny LMS, LLC Demonstration of)	
Compliance with Section 90.353(d) of the)	
Commission's Rules)	

**PETITION FOR RECONSIDERATION
OF THE UTILITY TRADE ASSOCIATIONS**

Pursuant to Section 1.429 of the Commission's Rules, 47 C.F.R. § 1.429, the Edison Electric Institute ("EEI"), American Public Power Association ("APPA"), National Rural Electric Cooperative Association ("NRECA") and the Utilities Telecom Council ("UTC") (collectively, "Utility Trade Associations") on behalf of their member utilities submit this Petition for Reconsideration in the above-captioned proceeding involving the Federal Communications Commission's ("FCC" or "Commission") June 6, 2013 Order.¹ The Utility Trade Associations respectfully request that the Commission reconsider its decision because the FCC acted arbitrarily by ignoring the potential impact of interference from Progeny's operation on utilities, contrary to the record in the proceeding. In the alternative, instead of requiring

¹ *In the Matter of Request by Progeny LMS, LLC for Waiver of Certain Multilateration Location and Monitoring Service Rules and Progeny LMS, LLC Demonstration of Compliance with Section 90.353(d) of the Commission's Rules*, WT Docket No. 11-49, Order, FCC 13-78 (rel. June 6, 2013) ("Order"). The Order granted a request by Progeny LMS, LLC ("Progeny") to commence commercial operations of its Multilateration location and monitoring service (M-LMS) subject to four conditions. *Id.* at ¶ 33-34. First, notification on the aforementioned docket of specific Economic Areas where Progeny already has completed initial build-out; second, that Progeny submit such notifications for each additional Economic Area within 15 days after it begins operating; third, that Progeny establish a website and toll-free help desk to enable users of unlicensed devices in the 902-928 MHz band to notify Progeny and seek assistance in investigating and mitigating potential interference issues; and four, that Progeny file reports with the Commission semiannually beginning December 2013 and ending December 2014, regarding any interference complaints that it has received. *Id.*

Progeny to provide public notice within 15 days after deployment in an additional Economic Area, the FCC should require Progeny to provide public notice 30 days in advance of deployment in an additional Economic Area. Requiring such advance notice, instead of notice after the fact, will allow Progeny and unlicensed operators in the 902-928 MHz band, including utilities, time to cooperatively test equipment and remedy issues prior to deployment.

I. BACKGROUND AND INTRODUCTION

A. The Utility Trade Associations

EEI is the association of United States investor-owned electric utilities and industry associates worldwide. Its U.S. members serve almost 95 percent of all customers served by the shareholder-owned segment of the U.S. industry, about 70 percent of all electricity customers, and generate about 70 percent of the electricity delivered in the U.S. EEI frequently represents its U.S. members before Federal agencies, courts and Congress in matters of common concern, and has filed comments before the Commission in various proceedings affecting the interests of its members.

APPA is the national service organization representing the interests of over 2,000 municipal and other state- and locally-owned, not-for-profit electric utilities throughout the United States (all but Hawaii). Collectively, public power utilities deliver electricity to one of every seven electricity consumers (approximately 47 million people), serving some of the nation's largest cities. However, the vast majority of APPA's members serve communities with populations of 10,000 people or less. Overall, public power utilities' primary purpose is to provide reliable, efficient service to local customers at the lowest possible cost, consistent with good environmental stewardship.

NRECA is the national service organization dedicated to representing the national interests of cooperative electric utilities and the consumers they serve. NRECA is the national service organization for more than 900 not-for-profit rural electric utilities that provide electric energy to over 42 million people in 47 states or 12 percent of electric customers. Kilowatt-hour sales by rural electric cooperatives account for approximately 11 percent of all electric energy sold in the United States.

UTC is an international association for the telecommunications and information technology interests of electric, gas and water utilities and other Critical Infrastructure Industries (“CII”), such as pipeline companies. These members include large investor-owned utilities which may serve millions of customers across multi-state service territories, as well as relatively small municipal and cooperatively organized utilities that may serve only a few thousand customers in isolated towns or rural areas throughout the country. In addition, UTC’s members include other CII, such as pipeline companies and other energy companies across country.

Its members own, manage and operate extensive communications systems that they use to support the safe, reliable and effective delivery of essential power and water services to the public at large. All of these members rely on wireless communications systems, including unlicensed wireless communications systems in the 902-928 MHz band that are potentially impacted by the Commission’s Order in this proceeding. Therefore UTC and its members are directly affected by this proceeding and seek reconsideration in order to protect their interests.

B. Utilities Depend on Reliable, Resilient Communications in Carrying Out Their Critical Services and in Meeting Public Safety Needs.

The Utility Trade Associations’ members make extensive use of communications as providers of critical utility services, including as owners and operators of private communications systems in the 902-928 MHz band that are placed directly at risk by the Commission’s Order in

this proceeding. Utilities, in fact, are among this nation's largest users of communications networks and services, which are vital to utilities' core mission of safely and reliably delivering essential utility services to the nation's residential and business consumers. It is in this regard that reliable and resilient communications networks are essential to the day-to-day operations of the Utility Trade Associations' member utilities across the country at all times, but particularly during, and in the close aftermath of natural and other disasters, when both communications and utility services may be disrupted.

The Utility Trade Associations' members operate Supervisory Control and Data Acquisition ("SCADA") devices pursuant to Part 15 of the Commission's Rules in the 902-928 MHz band. These SCADA systems allow for real-time control of the critical infrastructure upon which utilities and their customers rely. The FCC has noted that "communications are fundamental to all aspects of the Smart Grid, including generation, transmission, distribution and consumption."² The importance of communications to SCADA systems cannot be overstated, as the FCC itself acknowledged in its National Broadband Plan ("NBP") where it noted that utilities' SCADA systems "could prevent many blackouts by sensing problems and routing power around them."³ SCADA devices are used to communicate with utility substations and are therefore held to more stringent standards for performance and are less tolerant to performance degradation than other Part 15 devices that were tested by Progeny.⁴

² FCC Statements in *National Broadband Plan* at sec. 12.1.

³ *Id.*

⁴ Comments of the Utilities Telecom Council, WT Docket No. 11-49, (December 21, 2012) (UTC Comments) at 4.

II. FCC ARBITRARILY IGNORED THE POTENTIAL IMPACT OF INTERFERENCE FROM PROGENY’S OPERATION ON UTILITIES, CONTRARY TO THE RECORD IN THE PROCEEDING.

The FCC acted arbitrarily by ignoring the impact of interference from Progeny’s operation on the Part 15 SCADA systems used by utilities. As discussed below, the record in this proceeding reflects unacceptable levels of interference caused by Progeny’s operation on vital utility communications. Further, the FCC’s suggested remedy to mitigate this interference – *i.e.*, to report and correct interference after the fact – causes harm to utilities and their customers that cannot be resolved after the fact. Such reliance on promises of post-interference remedy is bad public policy. Finally, Progeny did not adequately test SCADA equipment in the 902-928 MHz band. This equipment must operate at more stringent performance standards than metering equipment Progeny tested. For these reasons, the FCC should reconsider its Order.

A. Progeny’s Operation Causes Unacceptable Levels of Interference on Critical Utility Communications Infrastructure.

As a condition for Progeny to operate on a commercial basis, Section 90.353 of the Commission’s rules requires that they “demonstrate through actual field tests that their systems do not cause unacceptable levels of interference to 47 CFR part 15 devices.”⁵ However as the record reflects, Progeny’s operations caused unacceptable interference in two separate instances. Moreover, as the density of Progeny’s deployments increases, comments on the record predict that interference from Progeny’s operations will render Part 15 devices completely unusable. These instances of interference coupled with predicted increasing levels of interference support reversal of the Order and further cooperative testing.

Interference from Progeny’s operations was reported by Pacific Gas and Electric Company (“PG&E”) in a May 17, 2013 letter to the FCC. During the last week of October 2012,

⁵ See 47 C.F.R. §90.353(d).

PG&E “noticed ‘unusually high error rates’ that ‘hinder[ed] [its] ability to safely and reliably control its gas pipeline systems and electric power grid.’”⁶ While PG&E determined that Progeny’s devices caused these error rates, it took nearly four months to fully resolve the issue, and required PG&E to place Progeny’s device forty feet away from the PG&E transmitter.⁷ In another instance of interference, Taggle Systems reported that “the practical impact of [the] level of interference [from Progeny] is that it renders 40% of the spectrum that Taggle uses commercially not viable.”⁸ Even in the tests that Progeny conducted, “performance was degraded by 50% in tests of some equipment, which would constitute unacceptable interference by any definition.”⁹ Most distressingly, joint tests demonstrate that the dense deployment proposed by Progeny will render smart meters and other Part 15 devices within close proximity to Progeny’s high power beacon transmitters *unusable*.¹⁰

The FCC’s suggestion at Paragraph 28 of the Order that Part 15 devices that are unable to operate near a Progeny beacon “may . . . require replacement”¹¹ is impractical and cost-prohibitive to utilities whose systems contain millions of devices located in homes and businesses that simply cannot be replaced or relocated to avoid interference from a Progeny device. The Utility Trade Associations’ member-utilities, as well as states and the Federal government, have invested billions of dollars in smart grid technologies, as well as in critical

⁶ Ex Parte from PG&E, WT Docket No. 11-49 (May 17, 2013) at 1-2.

⁷ *Id.*

⁸ Letter to Marlene H. Dortch, Secretary of the Federal Communications Commission from Taggle Systems.

⁹ Ex Parte from UTC, May 20, 2013

¹⁰ *See* Comments of GE Digital Energy and GE MDS LLC, WT Docket No. 11-49, (December 21, 2012) (GE Comments) at 6. “The effect of such a dense deployment will render AMI smart meters and other Part 15 devices within close proximity to the high power beacon transmitter unusable. Given the millions of smart meters recently deployed in metro areas and tens of millions of other Part 15 devices deployed since 1985 the blocking effects from high power in band M-LMS beacons will be catastrophic to the performance of nearby Part 15 devices.” *Id.*

¹¹ Order, ¶ 28.

SCADA infrastructure that will suffer interference by Progeny's beacons.¹² Requiring replacement of this valuable equipment is not viable. As PG&E and others have demonstrated in their comments in this proceeding, SCADA devices may be seriously compromised because of the Commission's decision to allow Progeny to operate its high powered transmitters in close proximity to the existing Part 15 devices. In addition, utility ratepayers are still paying for these devices.¹³ The FCC's expectation that these devices be replaced nationwide as a result of its Order is neither realistic nor feasible. If the Commission's decision remains unchanged, utilities face the prospect that increased interference from Progeny's operations will impair critical SCADA communications and thereby "jeopardize the safety of life, health and property."¹⁴ The critical nature of utilities' SCADA systems and devices – as acknowledged by the Commission – without question renders their inoperability due to Progeny's operations an "unacceptable level[] of interference."¹⁵

B. Stringent Performance Standards Increase the Risk of Failures of SCADA Systems Due to Harmful Interference, Particularly In Emergencies, and Are Not Matters That Can Be Resolved After the Fact.

While the FCC reasons that interference from Progeny's system will cause a loss in data packets that will lead to longer periods of time over which data is transmitted,¹⁶ such a delay falls

¹² Comments of Utilities Telecom Council, WT Docket No. 11-49 (December 21, 2012) at 2. "Millions of smart meters operate in the 902-928 MHz band, and utilities have invested billions of dollars in their deployment, including \$4.5 billion in federal matching smart grid grants under the American Reinvestment and Recovery Act of 2009." *Id.* See also American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 6001(k)(2)(D), 123 Stat. 115 (2009) (Recovery Act)

¹³ See National Association of Regulatory Utility Commissioners, Ex Parte Request and Resolution to Promote Co-Existence in the 902-928 MHz Spectrum Band, WT Docket No. 11-49 (Feb. 22, 2013).

¹⁴ UTC Comments at 2.

¹⁵ Order, n.62.

¹⁶ Order, ¶¶ 25, 28. According to the Commission, "[t]ests on frequency hopping spread spectrum devices (such as those used by AMR systems, Supervisory Control and Data Acquisition (SCADA) systems, and various alarm systems) show that in some instances there can be a reduction in the percentage of data packets successfully transmitted at a particular instant in time, *but that data packets get through over time* because these devices are

short of meeting utilities' stringent performance standards, and will cause harm to utility customers due to lapses in communication time. The Commission is well aware of this problem. In its NBP, the Commission acknowledged that SCADA systems have low latency requirements and that the availability of "only limited real-time, time-coded, synchronized energy data" can lead to disaster.¹⁷ Such harm cannot be resolved after the fact.

It is because of these technical requirements that utilities have stringent standards for the operation of SCADA equipment. As noted by UTC in this proceeding, some utility applications "are critically important and very intolerant of performance degradation. Similarly, there are at least one hundred thousand radios in the 902-928 MHz band that are used for switching and SCADA applications, which must operate with latencies *in the order of milliseconds*."¹⁸ As a consequence of not being able to transmit data in the order of milliseconds due to re-transmission of signals as a result of interference from Progeny's operation, interference of these applications would significantly compromise critical utility operations.¹⁹ As EEI has noted, SCADA systems used to monitor and control utility substations and distribution could be impacted.²⁰

The operation of smart meters may also be impaired by interference from Progeny's operations. Smart meters provide not only billing information, but also are capable of providing remote connect and disconnect service, as well as outage detection.²¹ The outage detection capabilities of smart meters are particularly important during those emergencies when they might be most vulnerable to interference from Progeny.

designed to operate on multiple channels and re-transmit as needed...In sum, many Part 15 devices will adapt to Progeny's operations because they are designed for operation in an interference environment. (emphasis added).

¹⁷ National Broadband Plan at 249.

¹⁸ UTC Comments at 2 (emphasis added).

¹⁹ *Id.*

²⁰ See EEI Reply Comments, WT Docket No. 11-49 (January 11, 2013) at 4.

²¹ UTC Comments at 2.

When emergencies occur, communication failures (which include delays in information transmission due to interference from Progeny's operation) cannot be resolved after the fact. Therefore, the FCC's reliance on a monitoring system and post-interference remedies is insufficient to meet the needs of utilities. As noted by PG&E, it took nearly *four months* to resolve problems caused by Progeny's operation.²² The FCC's after-the-fact approach to addressing such interference overlooks the time needed by utilities and other entities to identify and correct such issues, and does not adequately deter similar incidents from occurring on other utility systems. In turn, absent sufficient incentives to ensure compliance, the post-interference remedy suggested by the Commission does little to resolve an immediate harm to utility customers and is bad public policy.

C. Progeny Had Not Adequately Tested SCADA Equipment in the 902-928 MHz Band Which Must Operate at More Stringent Performance Standards Than the Smart Metering Equipment Progeny Has Tested.

While the Commission, in approving Progeny's operations, found that it satisfied the FCC's field test requirement,²³ the testing was not performed on a representative "cross-section" of equipment that meets the stringent performance standards required by electric utilities.

Comments submitted to the FCC indicate that Progeny only conducted tests with two types of smart metering equipment and one type of equipment used for wireless internet services.²⁴ Furthermore, "the results of even those few tests raise concerns that Progeny's system would cause widespread interference that would significantly impair the performance of

²² Ex Parte from PG&E, WT Docket No. 11-49 (May 17, 2013) at 1.

²³ Order at ¶¶ 20-21. According to the Commission, "...it is sufficient that a representative cross-section of the various types of devices that may be authorized for operation under the Part 15 rules for this band are evaluated. . ."

²⁴ Letter from Utilities Telecom Council to Marlene H. Dortch, WT Docket No. 11-49 (May 20, 2013) at 2.

unlicensed devices throughout the 902-928 MHz band.”²⁵ Similarly, the high performance standards for SCADA and the magnitude of the risk involved, “potentially jeopardizing the reliability of electric, gas, and water services to the public at large,” clearly dictates the need for further testing.²⁶

In addition, because of the large scale deployment that Progeny is contemplating, the overall effects of time-outs and data rates are completely dependent on the scope and scale of the network. Large scale deployment tests, which have not been performed, will reveal whether multiple Progeny transmitters will have multiple impacts on the same SCADA network, creating additional cumulative latency and packet loss issues.²⁷ Large-scale testing will therefore provide “...additional information pertinent to determining the potential of the Progeny system to cause unacceptable levels of interference.”²⁸ Until such time as additional testing has been performed on devices subject to the stringent performance standards required by utilities, the FCC’s decision should be reversed.

III. IN THE ALTERNATIVE, THE FCC SHOULD REQUIRE PROGENY TO NOTIFY ENTITIES 30 DAYS IN ADVANCE OF DEPLOYMENT.

The Commission’s directive at Paragraph 34 of its Order that Progeny notify entities “within 15 days after it begins operating” its devices is wholly insufficient to enable utilities to perform adequate testing and mitigation activities to address interference issues – actions that must be undertaken within a reasonable period of time, but no less than 30 days *prior* to deployment of Progeny devices.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.* at 2-3.

²⁸ Order, ¶ 22.

The post-interference remedy ordered by the Commission simply does not adequately respond to the performance needs of utilities and customers who are harmed by interference due to Progeny's operation. It is critical that cooperative testing and mitigation occur *prior* to deployment of the Progeny operation in a particular area. Thirty-day notice of deployment of Progeny's devices in a particular area will enable utilities to work with Progeny to mitigate interference through cooperative testing in advance of deployment. As it stands, Progeny need only advise entities following deployment, by which point they may already be irreparably harmed by interference caused by Progeny's operation. In addition, during the thirty-day notice period prior to deployment, cooperative testing may reveal additional solutions that can be deployed to other parts of the grid in advance of the Progeny deployment in a particular area.

IV. CONCLUSION

The Utility Trade Associations acknowledge the need for enhanced emergency location devices, but request that the FCC reconsider its decision for the aforementioned reasons. The FCC ignored the potential impact the Progeny operation will have and solutions set forth in the Order are inadequate to mitigate harm to end users caused interference from the Progeny operation. In the alternative, the Utility Trade Associations respectfully request that the FCC require Progeny to give thirty days notice to entities prior to deployment of their operation to allow time for cooperative testing of equipment and to mitigate interference in advance of deployment. Granting reconsideration of the Order or requiring such advance notice will go far to further the Commission's goal of "promot[ing] the shared coexistence of M-LMS and unlicensed operations in the band."²⁹

²⁹ Order, ¶ 10.

Respectfully submitted,

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