

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

In the Matter of)
)
Establishment of an Interference Temperature) ET Docket No. 03-237
Metric to Quantify and Manage Interference)
And to Expand Available Unlicensed)
Operations in Certain Fixed, Mobile and)
Satellite Frequency Bands)

**COMMENTS OF
CLECO CORPORATION**

Cleco hereby submits its Comments on the *Notice of Inquiry and Notice of Proposed Rulemaking* in the above-referenced proceeding. Cleco believes that any effort to share licensed spectrum with unlicensed spectrum is not in the best interest of the licensed users, especially in the critical, high capacity bands such as the 6MHz frequencies.

I. INTRODUCTION / BACKGROUND

Cleco Corporation (Cleco) is a publicly traded energy company, owning a retail regulated electric utility operating throughout Louisiana that serves over 260,000 industrial, commercial and residential customers. Cleco owns and operates three retail regulated generation stations, two electric wholesale generation (EWG) companies, and is part owner of a third EWG. All of these properties are located in Louisiana. These generating stations are interconnected to approximately 70 transmission stations via 1,300 miles of high-voltage transmission lines, serving approximately 350 distribution stations.

In order to accurately and reliably communicate with the multitude of electric control devices remotely located, Cleco utilizes a 6GHz point-to-point microwave system to carry over 480 channels of voice and data. The system also provides power plant connectivity for voice and data, and interconnectivity for a 32 site trunking radio

system. Cleco also interconnects with other utility microwave systems for channel sharing.

Cleco's analog system consists of 18 hops of upper 6GHz microwave and 1 hop of 2 GHz microwave. In 2003, Cleco began the budgeting and design work for upgrading all 19 analog hops to digital. The project was approved and the design work continued into 2004, with a scheduled cutover and completion timeframe of 4Q2005. Total project cost is expected to be over \$4,000,000. This is a major investment for a utility, and one that is critical to Cleco's operations.

II. UTILITY OPPOSITION TO PROPOSED TESTING

Cleco typically designs microwave paths for greater than 35dB of fade margin and 99.999% reliability. With the upgrade to a digital system, the fade margin will immediately drop by 5dB due to the system gain differences in analog and digital. This decrease in fade margin is acceptable, given the cost that would be required to modify the existing paths. However, any increase in noise level due to frequency interference would decrease the fade margin and ultimately affect system reliability.

Cleco currently utilizes numerous wireless technologies, each evaluated for its applicability to a specific need. Part of this evaluation takes into consideration the critical nature of the application, which determines the appropriate system to be used. Unlicensed spread spectrum technologies are utilized in low-risk applications, and the risks are known going into the project. Licensed technologies are used where the application is more critical and the interference potential is less likely. Furthermore, there is a method of interference resolution for licensed devices that does not exist for the unlicensed. To add unlicensed devices into an already licensed band, especially that of the high-capacity 6GHz band, poses a serious operational risk to these critical infrastructure channels. These systems typically carry hundreds or thousands of channels, and most of this is critical traffic utilized by electric utilities for the monitoring and control of the electric system network. Of Cleco's existing microwave channels, 15% are used for SCADA, 50% for radio, 25% for voice, and 10% is shared with neighboring utilities (a testament to the efficient use of spectrum).

Microwave systems typically operate at 1W transmitter output power, with high-gain parabolic antennas, or dishes, to concentrate the signal in the desired direction. The beamwidth on these dishes is very tight in order to reduce the required power. However, given the right conditions, these dishes can receive frequencies from unintended sources, thus resulting in system disruption, and the relative power from these sources does not have to be very high. Currently, frequency coordinators go to great lengths to ensure that these unwanted signals are minimized or eliminated, and this process has worked well for decades. Since unlicensed devices do not go through this same coordination process, reliable critical infrastructure systems could not accurately be designed.

III. CONCLUSION

Cleco understands and supports the FCC's desire to increase the usefulness of existing spectrum, however we believe further study is needed to determine the impact of the proposed testing on incumbent licensees. We further believe that non-critical bands should be identified for this testing in order to limit the potential adverse impact on critical infrastructure used by utilities for the reliable operation of their networks.

Respectfully submitted,

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