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October 19, 2006

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

Re: ET Docket No. 06-103
Multispectral Solutions Inc., Request for a Waiver of Part 15
Ex Parte Communication

On behalf of the Fixed Wireless Communications Coalition (FWCC), pursuant to Section 1.1206(b)(1) of the Commission's Rules, I am electronically filing this written *ex parte* communication.¹

A. Background

On April 12, 2006, Multispectral Solutions Inc. (MSSI) requested a waiver to increase the peak power allowed under Section 15.250 by 12.75 dB.² Section 15.250 provides for ultra-wideband-like operation over 5925-7250 MHz. This range includes the "Lower 6 GHz" Fixed

¹ The FWCC is a coalition of companies, associations, and individuals interested in the Fixed Service -- *i.e.*, in terrestrial fixed microwave communications. Our membership includes manufacturers of microwave equipment, licensees of terrestrial fixed microwave systems and their associations, and communications service providers and their associations. The membership also includes railroads, public utilities, petroleum and pipeline entities, public safety agencies, cable TV providers, backhaul providers, and/or their respective associations, telecommunications carriers, and telecommunications attorneys and engineers. Our members build, install, and use both licensed and unlicensed point-to-point, point-to-multipoint, and other fixed wireless systems, in frequency bands from 900 MHz to 95 GHz. For more information, see www.fwcc.us.

² Letter from Robert J. Fontana, Ph.D., President, MSSI, to Julius Knapp, Acting Chief, OET (dated April 12, 2006; date-stamped May 10, 2006).

Service band at 5925-6425 MHz, the "Upper 6 GHz" band at 6525-6875 MHz, and Part 74 Broadcast Auxiliary Service bands at 6425-6525 MHz and 6875-7125 MHz. The latter is also a Cable Television Relay Service (CARS) band.

In timely comments filed on June 12, 2006, the FWCC explained that the 6 GHz Fixed Service bands are heavily used to carry critical services such as public safety communications (including police and fire vehicle dispatch), coordinating the movement of railroad trains, controlling natural gas and oil pipelines, regulating the electric grid, and backhauling wireless telephone traffic. Many of these applications routinely require 99.999% or 99.9999% availability. The 6 GHz bands have shown consistently strong growth rates, and are sometimes the only option for new and relocated links of significant length.³

Our comments noted further that operation under the MSSSI waiver could raise the noise floor in these bands by 9 dB, and consequently reduce a system's fade margin by the same amount. That would trigger severe consequences on some Fixed Service systems. It would also compromise the advantages of automatic transmitter power control (ATPC) and reduced transmit power.⁴

To minimize the impact, the FWCC asked the Commission to impose certain conditions on any grant of a waiver to MSSSI, including:

- limitation to the two applications originally requested by MSSSI: tracking of cattle and tracking of personnel and assets at petrochemical facilities;
- limitation of the duty cycle of each waived device to no more than one part in 1,000,000; and.
- prohibition of synchronization of waived devices.

In reply comments filed on June 26, 2006, MSSSI accepted these three conditions.

³ See Comments of FWCC at 2 (filed June 12, 2006).

⁴ *Id.* at 3.

B. Amendment to Waiver Request

On September 14, 2006, MSSSI amended the scope of its waiver request in two respects. First, it dropped the application related to tracking cattle. Second, it expanded the petrochemical application as follows:

Applications are limited to high risk industrial sites such as Petroleum Facilities (production and storage), Chemical Facilities (production and storage), Power Plants (nuclear, hydraulic, electric), Mills (Steel, Paper, Pulp, etc.), Mines of all types and similar potentially hazardous industrial sites where real time personnel tracking is required for safety purposes.⁵

C. New Waiver Conditions

The FWCC is concerned about the possible proliferation of MSSSI tags under the relatively loose description of applications in the proposed amendment, with a resulting threat of interference to critical Fixed Service systems. For that reason, the FWCC opposes the waiver request as amended.

The FWCC will withdraw its opposition, however, if the waiver is made subject to the following conditions:

1. Fields of Use. The waiver is limited to the following types of applications and installations: petroleum, gas, nuclear, steel, and chemical production and processing facilities; manufacturing and storage facilities for energetic materials, radioactive substances, and explosive components; prisons; heavy industry and heavy construction sites; mining, ore processing, and excavation operations; emergency and disaster locations; shipyard/dock works; and lumber/paper processing mills.

2. Restricted Use. Waivered tags will be used to track only personnel and not physical assets. The only exception is for safety equipment located at the above qualified locations that would need to be located promptly in the event of an emergency (*e.g.*, respirators, fire extinguishers, decontamination equipment, etc.)

⁵ Letter from Robert J. Fontana, Ph.D. to Julius Knapp, Acting Chief, Office of Engineering and Technology, FCC at 2 (filed Sept. 14, 2006). MSSSI added that its tags would "automatically deactivate without human intervention when an employee leaves the site." *Id.*

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3. Automatic Shut Off. Waivered tags will be designed to automatically shut off with no human intervention when removed from the above qualified sites.

4. Duty Cycle Limitation. In every second of operation, the device will be active for no more than 0.1% of the time. Also, tags shall not be operated in a synchronous manner (*i.e.*, no common clocking among tags).

5. Marketing. Waivered products will be marketed only for safety applications.

CONCLUSION

With the above conditions in place, the FWCC believes that tags under the waiver can successfully coexist with 6 GHz Fixed Service Systems.

Respectfully submitted,

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