From: Robert Mulloy

To: John Kennedy
Date: July 05, 2006

Subject:
FCC File # 0038-EX-ML-2006

Message:

Multispectral Solutions, Inc.
Answer
Call Sign WD2XSW
File Number 0038-EX-ML-2006
Reference number: 4428

On June 23, 2006 MSSI was asked via email by Mr. John Kennedy of the FCC, "How is the request for 5000 units considered an experiment?"

Introduction

Multispectral Solutions, Inc. (MSSI), in cooperation with BP (formerly British Petroleum), conducted a series of successful experiments with MSSI's Sapphire DART RFID location awareness system during the period of August 2005 until January 2006. The trials were conducted under the current FCC Experimental License (0175-EX-PL-2005) at BP's Cherry Point Refinery in Blaine, Washington. The primary purpose of the experiments was to test the feasibility of MSSI's Sapphire DART system to improve safety and to meet Occupational Safety and Health Act (OSHA) and Washington Industrial Safety and Health Act (WISHA) regulations. These regulations mandate "control over entrance to a facility by maintenance, contractor, laboratory, or other support personnel. These safe work practices shall apply to employees and contractor employees."

Specifically, BP requirements include:

- Location of staff that do not show up at assigned mustering points
- Improve rescue team response time and their safety
  - Limiting time in hazardous atmosphere, especially when using Self-Contained Breathing Apparatus
- Comply with OSHA/WISHA safety regulations
- Ensure personnel have proper certifications to enter hazardous areas
- Provide safety/maintenance information to personnel based upon location
- Track assets for more efficient operations

The experiments clearly demonstrated the value of MSSI's system in improving the safety of operations within the refinery and are highlighted in the attached letter from Mr. Rick Porter (BP Cherry Point Business Unit Leader). The trials also demonstrated the need for using tags with a higher power output (e.g. +12.75 dB above Part 15.250 unlicensed limits for wideband transmissions). Higher power tags are necessary due to the need to locate personnel in an around the extremely high multipath environment of the refinery. The presence of metal tanks, pipes, grates, etc. makes localization extremely difficult without adequate tag transmitter power.