

Other Mission Effects and Buffering

[this page remains under development – check back for more information]

BUFFERING

Mission encroachment can often be mitigated by buffering or acquisition of property abutting military bases. This can be done through outright purchase of the property, or payment to the property owner for an easement that precludes incompatible development of the property in some manner. Both approaches have been used successfully in Northwest Florida to help buffer NAS Whiting Field and the Eglin Reservation from surrounding development.

RADIO FREQUENCY INTERFERENCE

The RF spectrum is an additional resource related to land use compatibility. Certain Eglin frequency bands are being encroached upon by devices that are either sloppy in their frequency control (e.g., cordless phones, cell phones, radio stations, cell towers) or that leak frequency emissions even if they are not designed to transmit (e.g., radar detectors). Certain frequencies within the RF spectrum are of more concern than others, since the frequencies can interfere with the safety of test missions. If a test item or aircraft is lost due to frequency issues, safety can be compromised beyond what is acceptable. Training missions tend to use the very high frequency (VHF) and ultrahigh frequency (UHF) bandwidths, which currently are dedicated military frequencies. This section focuses on the specific frequencies and the devices that emit the frequencies that are causing the most serious encroachment.

Wireless Local Area Networks (LAN) DEVICES, Cordless Devices, and Microwaves (5.4- TO 5.9-GHZ Bandwidth) The bandwidth between 5.2 to 5.9 GHz contains Eglin's primary frequencies used to track test items using radio location, radar tracking, and beacon/transponder tracking. The radars used to track test items are extremely sensitive and can detect even the smallest emitter, for example a

cordless phone being used on the third floor of a condominium. Devices that interfere with these frequencies include wireless LAN, microwave, and cordless devices. Since encroachment on these frequencies interferes with the safety of test missions, protection is a priority and must be proactive rather than reactive as interferences occur. Generally, the interference occurs within a 50-mile area extending from the Eglin boundary. To protect against this interference, a buffer of 50 miles within which all devices or systems operating within the 5.4- to 5.9-GHz bandwidth would be prohibited is recommended. Recent encroachment within the 5.4- to 5.9-GHz bandwidth include a developer installing wireless LAN in a high-rise condominium along the coastline and a local county installing wireless LAN and microwave to communicate between coastal and inland offices. An example of successful frequency mitigation involves the use of garage door openers. The military negotiated with Sears to reserve the 315-MHz frequency for use with garage door openers in homes around military installations. Previously the frequencies that Sears used interfered with military operations. Sears has committed to producing and selling openers in stores near installations that only use the agreed-upon frequency.

Industrial, Scientific, and Medical Devices (Various Bandwidths) The use of industrial, scientific, and medical (ISM) devices can encroach upon several different bandwidths utilized by Eglin for a variety of missions. Interference from the ISM devices is handled as it is detected. A reactive approach is acceptable for these devices since the encroachment occurs less frequently and is not directly related to control of a test item.

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