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Radio TechCheck



The Weekly NAB Newsletter for Radio Broadcast Engineers

FCC's TV "White Space" Christmas

TV White Space (TVWS) operations have been in operation for almost a year with operations have been limited to Wilmington and Hanover Counties in North Carolina and Nottoway County, Virginia. That's all about to change.

On December 6, 2012, the FCC's Office of Engineering and Technology (OET) announced that it is authorizing FCC-approved TVWS database systems to provide service to unlicensed TVWS devices over the entire East Coast Region. Specifically, operation is now permitted in New York, New Jersey, Pennsylvania, Delaware, Maryland, Washington, DC, Virginia and North Carolina. TVWS devices are unlicensed radio devices that operate on "unused" spectrum in the TV bands. In order to protect TV and other licensed operations, TVWS devices must contact an approved database and provide that database with location information. The database then determines what channels would be available for the device.

The FCC rules require that TV white space devices and database systems protect:

- All broadcast TV stations;
- Fixed broadcast auxiliary links;
- Public safety and other land mobile operations on TV channels 14-20;
- Receive sites of multichannel video programming distributors (MVPDs) and TV translators; and,
- Low power auxiliary operations (such as Part 74 licensed wireless microphones and certain approved unlicensed wireless microphones used at large venues).

Except for the last two categories, all necessary protection data is extracted from the FCC licensing records. To receive protection for licensed low power auxiliary operations, such as wireless microphones, broadcasters must register with a TVWS database operator and provide contact information and data on where and when the microphone or other auxiliary equipment will be used. Registration of all licensed auxiliary operations is free and is valid for up to one year.

OET stated that it anticipates authorizing TVWS devices and operations on a **nationwide basis** by mid-January 2013.

To accomplish that, as a companion to this announcement, the FCC's OET and Wireless Telecommunications Bureau (WTB) also announced the nationwide launch of the FCC's Unlicensed Microphone Registration System. The unlicensed wireless microphone system had been initially launched in the East Coast region on September 19, 2012. Unlike Part 74 *licensed* auxiliary operations that are registered directly with a TVWS database administrator, unlicensed wireless microphones, such as those used at a large concert or venue must meet certain minimum criteria and must be registered and approved by the FCC. Such requests are also subject to a 30-day public notice and comment process.

Copies of both Public Notices can be found here.

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-12-1957A1.pdf;

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-12-1956A1.pdf

Both the [Spectrum Bridge database](#) and [Telecordia database](#) are now available for licensed wireless microphones and other types of registrations across the country. It is recommended that broadcasters consider protecting their studios and other venues where they regularly use wireless microphones by registering with a TVWS database administrator. Registrations are free and are valid for a period of one year. In addition, a registration made with any TVWS database administrator will protect your operations from any TVWS device, even devices using other databases. Under the FCC rules, a registration can be made with any database administrator who will then provide this information to all other approved administrators.

For convenience, additional detail is reprinted below from our February 13, 2012 *TV and Radio TechCheck*.

Registering your studio and other locations where you regularly use wireless microphones now will also allow time to put into place procedures on how this will be done in the future and provide an opportunity to train station personnel, such as newsroom and ENG staff, with the processes involved.

The following steps are recommended:

Inventory all wireless microphones, IFB and other Low Power Auxiliary equipment that operates on any frequency between 54 MHz and 698 MHz

- The operating frequency or frequencies of each device should be noted, recorded and converted to a specific TV channel since registration is by TV channel, not wireless microphone frequency. For example, if your microphone operates on the 200 kHz channel between 502.220 to 502.240 MHz, you would register and request protection for TV Channel 19 (500-506 MHz). If you have other equipment that operates on the same TV channel at the same location, only one registration is required.
- Reminder: Wireless microphone operation above 698 MHz (TV channels 52 to 69) is no longer permitted.

Determine What Channels Are Already Protected

- TV White Spaces devices cannot operate on any channel used for TV operations in the area. Although in spectrum congested markets, broadcasters sometimes use low power auxiliary equipment that operates on channels used for TV operation. There is no need to register equipment that operates on these channels since unlicensed devices are already precluded from using these channels. **IN FACT, IT IS STRONGLY RECOMMENDED THAT SUCH CHANNELS NOT BE REGISTERED.**
- Under the TV white spaces rules, two TV channels are "reserved" for wireless microphone operations and may not be used by unlicensed TV band devices. There is no need to register these channels (however, the two reserve channels can vary within a station's service area so make sure that the channels are actually reserved at all locations).

Determine Sites Where Wireless Equipment Is Used On a Regular Basis

- Registrations are based on the site or specific locations where the equipment is used on a *regularly scheduled* basis. Protections are valid only for the specific locations and times that are registered.
- Recommend that ALL Stations register their news or other studio locations if they use wireless microphones or other equipment in the station or studio on a regular basis.
- Recommend that Stations also register specific sites within their licensed service area where wireless microphones are used on a regular basis. Some examples of this include:
 - Sites used on a regular basis for weather reports (e.g., regular weather reports from a park, beach or even outside your studio can be registered);
 - Sites used on a regular basis for traffic reports;
 - Sites such as a local courthouse or government office that are used on a regular basis for news reports

Special Event Registration

- If you plan to use microphones, IFBs or other equipment at a planned special event, you need to register the event location and event times (include planned test, rehearsal times too!) and request protection on all TV channels on which the equipment will operate. Some examples of special events include:
 - Sporting events
 - Concerts
 - County fairs
- Events may be a single time event or recurring events such as, Friday night concerts or football games.
- Protections are valid only for the specific locations and times that are registered.

Registration and ENG

- There are NO specific provisions for registration of unplanned operations such as ENG in the FCC's white spaces rules. However, a number of Database Administrators have indicated that registrations, in practice, will be

considered and propagated to other administrators in close to real-time. Therefore, registration may offer some protection even for unplanned ENG operations, especially in situations where those operations may be on site for several hours.

The registration process is fairly straightforward and uses a simple menu-driven format.

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