

## TV White Spaces Databases and Database Administrators

### I. Overview

The Commission's rules provide for operation of low power unlicensed wireless devices in the broadcast television spectrum (TV bands) at locations where that spectrum is unused by licensed services.<sup>1</sup> This unused TV spectrum is commonly referred to as television "white spaces" (TV white spaces). The unlicensed devices that operate in this spectrum (TV band devices) generally provide communications of broadband data and other services for consumers and businesses.

To identify unused spectrum, *i.e.*, vacant channels, TV bands devices must include a geo-location capability and the capability to access through the Internet a database that identifies incumbent licensed operations entitled to interference protection. The protected incumbent operations, include for example, full power and low power TV stations, broadcast auxiliary point-to-point facilities, low power auxiliary service operations (wireless microphones), PLMRS/CMRS operations on channels 14-20, and the Offshore Radiotelephone Service.<sup>2</sup> The database also includes records reflecting the protected locations and channels of certain radiofrequency services that are not recorded in Commission databases.<sup>3</sup> The database accessed by the device will respond with a list of the TV channels that are vacant and can be used at the device's location.<sup>4</sup> The rules state that the Commission will designate one or more entities to administer the TV bands database function for a term of 5 years.<sup>5</sup> The Commission has delegated authority for oversight and management of the database administrator(s) and their functions to its Office of Engineering and Technology (OET)<sup>6</sup>

This website provides information regarding TV white databases, their designated administrators and the Commission's requirements for their approval and performance.

### II. Selection of the Database Administrators

On January 26, 2011, the OET issued an *Order* designating nine entities to serve as TV white spaces database administrators. Based on the information filed by the conditionally designated administrators, OET found that each of the applicants had shown that they have the technical

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<sup>1</sup> See *Second Report and Order and Memorandum Opinion and Order (Second Report and Order)* in ET Docket No. 04-186, 23 FCC Rcd 16807 (2008) and *Second Memorandum Opinion and Order (Second Memorandum Opinion and Order)* in ET Docket No. 04-186, FCC 10-174, adopted September 23, 2010. The rules for unlicensed devices that operate in the TV bands are set forth in Sections 15.701-.717 of the Commission's rules, 47 C.F.R. §§ 15.701-.707. These rules also contain provisions for devices that rely on spectrum sensing to determine available channels.

<sup>2</sup> See 47 C.F.R. § 15.711. See 47 C.F.R. § 15.717.

<sup>3</sup> *Id.* (e.g., the locations of 1) cable headends and low power TV receive sites that are outside the protected contours of the TV stations whose signals they receive; 2) authorized wireless microphones and other low power auxiliary devices are used on a regular or scheduled basis; and radioastronomy sites).

<sup>4</sup> See 47 C.F.R. § 15.713(a)-(b).

<sup>5</sup> See 47 C.F.R. § 15.715.

<sup>6</sup> See *Second Memorandum Opinion and Order* at ¶107.

expertise to develop and operate a TV bands database. However, OET indicated that these designations would be subject to the entities fulfillment of and compliance with certain conditions intended to ensure their adherence to recent changes in the rules and to provide for strong oversight of their system designs and operations by the Commission.<sup>7</sup> These conditions are:

1. Each of the designated database administrators must supplement its previous filings with sufficient detailed information to indicate how it will comply with the rule changes adopted in the *Second MO&O*. Amendments to proposals must be received by February 28, 2011. Any of the database administrators that filed separate proposals and now wish to consolidate their operations must submit an updated proposal by this same date. Any database administrators that wish to withdraw their proposals must notify the Commission by this same date.
2. All database administrators must attend workshops to be conducted by OET to address the operation of the databases to ensure consistency and compliance with the rules and the database trials, as described herein. Each administrator shall designate a responsible party who will represent its organization at the workshops and also ensure compliance with all of the conditions herein by February 28, 2011. The first workshop is scheduled for March 10, 2011 at the Commission's Laboratory in Columbia, Maryland.
3. Each database administrator must cooperate with any steps OET deems necessary to ensure compliance with the rules, including for example security features.
4. Database administrators must agree that they will not use their capacity as a database manager to engage in any discriminatory or anti-competitive practices or any practices that may compromise the privacy of users.

Database administrators that successfully satisfy all of the conditions herein will be allowed to make their databases available for actual use for the five year term specified in our rules.<sup>8</sup> OET will announce the public availability of each database, at which time the five year term for that database will commence.

### III. The Database Administrators

The designated TV white space database administrators and their status with respect to the required submissions under conditions 1 and 2 above are:<sup>9</sup>

- Comsearch  
Contact information: H. Mark Gibson, 19700 Janelia Farm Boulevard, Ashburn, VA  
20147  
Approval status: Pending

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<sup>7</sup> See *Order* by the Chief, Office of Engineering and Technology, adopted and released January 26, 2011, DA 11-131.

<sup>8</sup> See 47 C.F.R. §15.715(h) as revised by the *Second MO&O*.

<sup>9</sup> These nine entities submitted proposals in response to a Public Notice that the Commission's Office of Engineering and Technology released on November 25, 2009. See "Office of Engineering and Technology Invites Proposals from Entities Seeking to be Designated TV Band Device Database Managers," Public Notice, DA 09-2479, ET Docket No. 04-186, rel. Nov. 25, 2009. The information requested in the Public Notice was based on rules for TV bands databases adopted in the *Second Report and Order and Memorandum Opinion and Order*.

- Frequency Finder, Inc.  
Contact information: Peter Moncure, 8910 Dick's Hill Parkway, Toccoa, GA 30557  
[pmoncure@radiosoft.com](mailto:pmoncure@radiosoft.com)  
Approval status: Pending
- Google Inc.  
Contact information: Alan.Norman, 1600 Amphitheatre Parkway, Mountain View, CA 94043  
[alannorman@google.com](mailto:alannorman@google.com)  
Approval status: Pending
- KB Enterprises LLC and LS Telcom  
Contact information: Dr. Georg Schöne, Im Gewerbegebiet 31-33, D-77839 Lichtenau, Deutschland  
[GSchoene@LStelcom.com](mailto:GSchoene@LStelcom.com)  
Approval status: Pending
- Key Bridge Global LLC  
Contact information: Jesse Caulfield, 1600 Tysons Blvd., Suite 450, McLean, VA 22102  
[jesse.caulfield@keybridgeglobal.com](mailto:jesse.caulfield@keybridgeglobal.com)  
Approval status: Pending
- NeuStar, Inc.  
Contact information: Brian Rosen, 1775 Pennsylvania Ave., NW, Washington, DC 20006  
[brian.rosen@neustar.biz](mailto:brian.rosen@neustar.biz)  
Approval status: Pending
- Spectrum Bridge, Inc.  
Contact information: Neeraj Srivastava, 1064 Greenwood Blvd, Lake Mary, FL 32746  
[n.srivastava@spectrumbridge.com](mailto:n.srivastava@spectrumbridge.com)  
Approval status: Pending
- Telcordia Technologies, Inc.  
Contact information: John P. Malyar, 1 Telcordia Dr., Piscataway, NJ 08854  
[jmalyar@telcordia.com](mailto:jmalyar@telcordia.com)  
Approval status: Pending
- Airity, Inc. (formerly WSdb LLC)  
Contact information: Adam Drobot, 2M Companies, 3401 Armstrong Ave., Dallas, TX 75205-3545  
[Adam.Drobot@2M.com](mailto:Adam.Drobot@2M.com)  
Approval status: Pending

#### IV. Database Workshops and Dissemination of Information

As indicated above, all database administrators are required to attend workshops conducted by OET. At these workshops, OET will instruct the database administrators on how to comply with the database rules, identify tasks that must be completed by each administrator, and establish milestone dates for reporting progress on or completion of the identified tasks. Each database administrator is to designate a responsible party from its organization who will attend the

workshops and ensure that the organization complies with all of the conditions below; responsible parties may also have an additional person from their organizations attend each workshop.<sup>10</sup>

The workshops will be conducted at the FCC Laboratory in Columbia, MD by staff of OET's Laboratory Division. OET will address implementation details and collect information from the database administrators in these workshops; it will also provide guidance on the requirements to the database administrators on an as needed basis. The database administrators may also decide on their own to meet separately to discuss the various tasks and may include other interested parties in their meetings; however, OET will make final decisions on implementation issues affecting the databases and their operation and all decisions will be publicly available. OET will establish a webpage to post information about, and may seek comment on, the guidance that it will provide to the administrators. Each database administrator must cooperate with any steps OET deems necessary to ensure that the TV bands databases provide accurate and consistent lists of protected services and available channels. Further, they must support capabilities that OET deems necessary to ensure that any changes in registration of protected facilities in one database are rapidly reflected in all others. The workshops are intended to serve as a valuable tool for ensuring that each administrator understands the rules and effectively implements them. Additional guidelines and information will also be published as OET's Knowledge Database (KDB) at [www.fcc.gov/labhelp](http://www.fcc.gov/labhelp).

#### V. Database Trial Periods

Each database will be subject to a trial period of not less than 45 days before it is allowed to be made available for actual use by TV bands devices to allow interested parties an opportunity to check that the database is providing accurate results. During the trials, the database administrators will need to provide a means for the Commission and others to enter geolocation data to obtain lists of available channels. The FCC staff will subject each database to inquiries for lists of channels available at specific locations (the specific locations examined will be revealed after testing and will vary across the trials of different database systems). The public also allowed to make such trial inquiries for available channels.

A longer trial period may be required if the OET determines that a database is not in compliance with the Commission's rules. OET will determine the details of each trial (trials will be as consistent as possible across different databases, with the exception of the specific geographic locations of inquiries, but may reflect differences in the design, structures and methodologies used in individual database systems), balancing the need to ensure that the database is working properly with the need to avoid an unnecessarily cumbersome and burdensome process.

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<sup>10</sup> We recognize that some of the administrators intend to use subcontractors for various database functions. It is not our intent to interfere with these private arrangements; however, the administrator will be ultimately responsible for the activities of the subcontractor and for ensuring that the subcontractor complies with our rules. The responsible party named by the administrator will be the point of contact for Commission staff. However, responsible parties may, from time to time, have another person member of their organization represent them at a scheduled workshop in their place.