



Federal Communications Commission
Washington, D.C. 20554

March 26, 2012

DA 12-465

Mr. John Malyar
Chief Architect
Interconnection Solutions
Telcordia Technologies, Inc.
1 Telcordia Drive/RRC 4F604
Piscataway, NJ 08854

MAILED
MAR 29 2012
FCC Mail Room

Dear Mr. Malyar,

Approval is hereby granted for Telcordia Technologies, Inc. (Telcordia) to operate its "TV bands database system" to provide service to the public. This database system will provide support of unlicensed radio devices that transmit on unused channels in the spectrum bands used by broadcast television (TV bands devices). As discussed below, we are not providing authorization for commencement of operation by this database system to provide service to TV bands devices until the Commission completes the development and activation of its system for approving registrations in the TV bands database systems of venues where large numbers of unlicensed wireless microphones are used (unlicensed wireless microphone registration system) and affected venues have had an opportunity to apply for such registrations. We may, however, authorize operations to serve one or more localized areas prior to the activation of this unlicensed wireless microphone venues registration system where Telcordia coordinates with local officials and other stakeholders to ensure that appropriate protection is provided for any such venues.

The Commission's Part 15 rules (47 C.F.R. § 15.701 *et seq.*) require that unlicensed radio devices that operate in the broadcast television bands (TV bands devices) contact an authorized database system to obtain a list of channels that are available for their operation (*i.e.*, channels not occupied by authorized radio services) at their individual locations and operate only on those channels. Such devices are required to provide their geographic location, by means of a secure Internet connection, to a TV bands database system authorized by the Commission. The database will then return a list of the channels available for operation by the device for its reported location.

Telcordia, along with a number of other entities, was conditionally designated as a TV bands database administrator under the Part 15 rules in an *Order* issued by the Commission on January 26, 2011, 26 FCC Rcd 12827 (2011). Final approval for each designated database administrator's operation of a TV bands database system was subject to compliance with requirements that it: 1) supplement its previous filings with sufficient information to demonstrate how it will comply with the rule changes adopted in the *Second Memorandum Opinion and Order* (ET Docket No. 04-186, 25 FCC Rcd 18661 (2010)); 2) agree that it will not use its capacity as a database manager to engage in any discriminatory or anti-competitive practices or any practices that may compromise the privacy of users; 3) coordinate closely with the agency to ensure competency, consistency, and compliance with the rules; 4) participate in a series of mandatory workshops conducted by the Commission's Office of Engineering and Technology (OET) to address implementation issues and to ensure consistency and compliance with the rules; and 5) subject its database to real-world testing for a period of not less than 45 days. This public trial is intended to allow interested parties an opportunity to check that the database provides accurate results before being made available for actual use by TV bands devices.

Telcordia has provided the required submissions and has participated in the workshops in compliance with conditions 1 through 4. In addition, it conducted a public trial of its database system as required by

condition 5 from December 7, 2011 to January 20, 2012. In this trial, Telcordia made its channel availability calculator, as well as its procedures for registering protected facilities, including low power auxiliary services (principally wireless microphones), MVPD and low power TV receive sites, and temporary broadcast auxiliary links that are not in the FCC databases available for testing by the public. Telcordia's final report on its 45-day public trial was placed in the record of the TV white spaces proceeding, ET Docket No. 04-186, and comments were requested in a Public Notice (Public Notice) released February 1, 2012, DA 12-118.

Comments on Telcordia's public trial and its final report on the trial were submitted by Mr. Patrick Ward. Mr. Ward submits that while he finds the Telcordia database system to be lacking in some respects, he also finds it to be quite useful in many respects. He expresses concern that the Telcordia database system does not properly protect the radio astronomy observations at sites in New Mexico where radio telescopes are operated. Mr. Ward argues that radio telescopes need certain frequencies set aside and protected beyond the simple protected radio silence established by the Commission, the International Telecommunications Union, the International Astronomers Union and the National Radio Astronomy Organization. In its reply comments, Telcordia submits that its database system provides protection from TV white space device use on all channels in a contour around the VLA as prescribed by the Commission. It submits that any request to change the rules now, in comments to the Telcordia Summary Report on the 45-day public trial is procedurally deficient and amounts to an untimely request for reconsideration. We find that Mr. Ward's comments raise issues that are beyond the scope of the Public Notice, and indeed the trial of Telcordia's database system and, as Telcordia states, procedurally amount to an untimely request for reconsideration of the TV white space rules. We therefore will not address those issues herein. Issues concerning protection of radio astronomy facilities were addressed and decided previously by the Commission in its *Second Report and Order and Memorandum Opinion* in the TV white spaces proceeding, ET Docket No. 04-186, 23 FCC Rcd 16807, 16862 (2008).

No comments were received concerning the Telcordia database systems channel availability calculator or other aspects of the trial. Given the large number of parties that examined the Telcordia database system during its public trial, we find the absence of comments on the data base content, channel availability calculator and registration features to be indicative that the system is satisfactory in those areas.

Based on our own examination and testing of the Telcordia database system, the results of the public trial, including comments submitted to Telcordia during the trial and Telcordia's responses to those comments, and the comments submitted in response to the Public Notice, we find that Telcordia has demonstrated that its channel availability calculator is able to properly determine the unused channels at a location that may be used by the different types of unlicensed TV bands devices. We also find that its registration procedures properly record, store and retrieve protected facilities that are not in the FCC databases. In addition, Telcordia successfully demonstrated at the February 14, 2012 meeting of TV white spaces database administrators and FCC staff that its database is able to synchronize registration records with the Spectrum Bridge, Inc. TV database system using the White Space Database Administrator Group's *Database-to-Database Synchronization Interoperability Specification*, Version 1.01 September 12, 2011. We therefore find that Telcordia's TV bands database system is compliant with the Commission's rules for TV white space database systems and ready for operation. We will, however, verify that the synchronization of registration records function of the Telcordia database system is performing properly when the database system begins operation to provide service to TV bands devices. Also, we have not yet tested this database system with an actual TV bands device. When an application for a TV bands device that accesses Telcordia's database system is processed, we will verify that the database's provisions for securing communications between a device and the database are functioning in accordance with the rules in conjunction with our testing of the device itself.

As indicated above, the Commission's unlicensed wireless microphone registration system is not yet operational. This system is still under development, and we anticipate that it will be operational in the near future. Until this system is operational and affected parties have an opportunity to register their venues to obtain protection, we cannot provide a general authorization to Telcordia or any other TV bands database administrator to provide service from its database system to TV white space devices. However, we will consider favorably a request from Telcordia to provide immediate service from its database system in a limited geographic area. For such an area, OET would accept and process any requests for registration of venues where large numbers of unlicensed microphones might be used and then direct Telcordia to create a registration record for the venue. We will notify Telcordia when our unlicensed wireless microphone registration system is completed and inform it of the date on which it may begin providing service to TV bands devices.

In addition, as the initial implementation of the Commission's plan for operation of TV bands devices proceeds, we anticipate that there may be additional changes, generally minor, in various aspects of the plan. There may also be elements of Telcordia's database system that will need to be adjusted as experience is gained with TV white spaces operations by the Commission, the database administrators, device manufacturers, and device users. We will provide instructions to Telcordia and the other database administrators to incorporate and test refinements at such time as they may be developed. We do not generally expect that implementation of the database synchronization facility, the registration system for venues where large numbers of unlicensed wireless microphone are used, or other changes will necessitate additional testing through a public trial. We anticipate that operation of these features will be verified by the OET staff. Nonetheless, we are reserving the option to request that Telcordia undertake additional public trial testing if we determine that such testing is necessary to ensure that the database systems properly determine available channels and protect authorized services.

Accordingly, we are granting approval for Telcordia to operate its database system to provide service to certified unlicensed devices that operate in the broadcast television bands subject to the conditions above. The Commission will notify Telcordia when the conditions are removed. Authority for this action is provided in Section 0.241(h) and Sections 15.701-.715 of the Commission's rules, 47 C.F.R. § 0.241(h) and §§ 15.701-.715 and Sections 4, 5, 303, 304, 307, 336, and 554a of the Communications Act of 1934 as amended, 47 U.S.C. Secs. 154, 155, 302a, 303, 304, 307, 336, and 624a.

Sincerely,

Julius P. Knapp
Chief, Office of Engineering and Technology