

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Unlicensed Operation in the TV Broadcast Bands)	ET Docket No. 04-186
)	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band)	ET Docket No. 02-380

ORDER

Adopted: June 11, 2018

Released: June 11, 2018

By the Chief, Office of Engineering and Technology:

I. INTRODUCTION

1. In this *Order*, we conditionally designate Nominet UK (Nominet) as a white space database administrator pursuant to Section 15.715 of our rules, subject to conditions described herein.¹ The white space databases are used by fixed and personal portable unlicensed devices to identify unused spectrum that is available at their geographic locations.

II. BACKGROUND

2. *White space device rules and database administrators.* Part 15 of the Commission's rules permits the operation of unlicensed intentional radiators on available channels in the broadcast television bands, the 600 MHz service band, the 600 MHz duplex gap, and in channel 37.² The unused spectrum in these bands is commonly referred to as "white spaces." Unlicensed devices operating in the white spaces provide broadband data and other services for consumers and businesses.

3. To prevent interference to authorized users of the bands where they operate, white space devices must include a geo-location capability and the capability to access a database that identifies incumbent uses entitled to interference protection, including, for example, full power and low power TV stations, broadcast auxiliary point-to-point facilities, PLMRS/CMRS operations on channels 14-20, and the Offshore Radiotelephone Service.³ The database is also used to register the locations of fixed white space devices and the protected locations and channels of incumbent services (including licensed wireless microphone and 600 MHz wireless service band operations) that are not otherwise recorded in

¹ 47 CFR § 15.715.

² 47 CFR § 15.701, et. seq. The broadcast television bands consist of channels 2-36 (54-72 MHz, 76-88 MHz, 174-216 MHz and 470-608 MHz). The 600 MHz service band is comprised of downlink and uplink spectrum (617-652 MHz and 663-698 MHz) for licensed wireless services under Part 27. The upper six megahertz of the duplex gap between the 600 MHz service bands (657-663 MHz) is available for use by unlicensed white space devices. Channel 37 (608-614 MHz) is used by the Wireless Medical Telemetry Service (WMTS) and radio astronomy. The most recent changes to these rules were adopted by the Commission in 2015. *Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37*, Report and Order, 30 FCC Rcd 9551 (2015) (*TV Bands Part 15 Report and Order*). Pending before the Commission are several petitions for reconsideration of portions of these rules.

³ 47 CFR § 15.711.

Commission databases.⁴ The database indicates to a white space device which frequencies are available for use at its location.⁵

4. The Commission can designate one or more entities to administer a white space database.⁶ The Office of Engineering and Technology (OET) has previously designated several different entities to serve as white space database administrators.⁷ At the beginning of this designation process in 2009, it issued a public notice inviting interested entities to apply, and requesting that each applicant address how the basic components of a white space database required by the Commission's rules would be implemented, i.e., a data repository, a data registration process, and a query process.⁸ This notice also requested that applicants address whether they sought to provide all or only some of these functions and to affirm that the database service would comply with all of the applicable rules.⁹ In addition, the notice invited public comment on the database administrator proposals.

5. After reviewing the database administrator proposals and comments received in response to the public notice, OET designated all of the responding entities as white space database administrators, subject to certain conditions.¹⁰ Specifically, each conditionally designated administrator was required to: (1) supplement its initial filing to demonstrate that it would comply with changes that the Commission had made to the requirements for white space database administrators in 2010,¹¹ (2) attend any workshops conducted by OET to address the operation of the databases to ensure consistency and compliance with the rules, (3) cooperate with any steps OET deems necessary to ensure compliance with the rules, and (4) agree not to 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. OET also required that each administrator's database be subject to a public trial period of not less than 45 days before it could be made available for actual use by white space devices to allow interested parties an opportunity to check that the database is providing accurate results.

6. *Nominet's request for designation as a database administrator.* On November 16, 2017, Nominet filed a proposal with OET seeking designation as a white space database administrator.

⁴ 47 CFR § 15.713(a)(3)-(4). Services not recorded in Commission databases include the locations of cable headends and low power TV receive sites that are outside the protected contours of the TV stations whose signals they receive, the locations where licensed wireless microphones and other low power auxiliary devices are used at specified times, locations where the WMTS operates on channel 37, and 600 MHz service band operations in areas where a licensee has commenced operations.

⁵ 47 CFR § 15.713(a)(1).

⁶ 47 CFR § 15.715.

⁷ *Unlicensed Operation in the TV Broadcast Bands and Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Order, 26 FCC Rcd 554 (2011) and *Unlicensed Operation in the TV Broadcast Bands and Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Order, 26 FCC Rcd 10599 (2011).

⁸ *Office of Engineering and Technology Invites Proposals from Entities Seeking to be Designated TV Band Device Database Managers*, Public Notice, 24 FCC Rcd 14136 (OET 2009).

⁹ The Commission may, at its discretion, permit the functions of a white space database, such as the data repository, registration, and query services, to be divided among multiple entities. 47 CFR § 15.715.

¹⁰ *Unlicensed Operation in the TV Broadcast Bands and Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Order, 26 FCC Rcd 554 (2011).

¹¹ *Unlicensed Operation in the TV Broadcast Bands and Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Second Memorandum Opinion and Order, 25 FCC Rcd 18661 (2010) (*Second MO&O*). In the *Second MO&O*, the Commission made two changes to the requirements for white space database administrators. Specifically, it required that communications between white space devices and databases, and between multiple databases, be secure. It also required that database administrators make information in the white space databases publicly available. *Second MO&O*, 25 FCC Rcd at 18702-03, 18710, paras. 97-99, 119.

Nominet's proposal provided the information requested by OET's 2009 public notice that invited proposals from parties seeking to be designated as white space database administrators. In addition, Nominet states that it will comply with the conditions in OET's order that conditionally designated white space database administrators. Nominet further states that its database will implement all of the changes to the white space rules that the Commission made in 2015.¹²

7. On April 9, 2018, OET issued a public notice seeking comment on Nominet's proposal.¹³ Two parties filed comments, and no parties filed reply comments.¹⁴ 6Harmonics, Inc. and Redline Communications, both white space device manufacturers, strongly support Nominet's request for designation as a white space database administrator. 6Harmonics states that it has used Nominet's white space database in the United Kingdom (UK), and that Nominet has proven expertise and deep knowledge on both the regulatory and operational aspects of white space databases.¹⁵ Redline states that there should be no doubt that Nominet, the top-level domain administrator for the UK and operator of the first white space database approved for use in the UK, is capable of operating a white space database consistent with the public interest.¹⁶

III. DISCUSSION

8. Based upon our review of its proposal and the record before us, we are designating Nominet as a white space database administrator, subject to the conditions described below. We find that it has shown that it has the technical expertise to develop and operate a white space database. Our designation of Nominet is subject to conditions similar to those we required of the previously designated administrators,¹⁷ plus one additional condition discussed below. We note that Nominet has already satisfied certain of these conditions. Specifically, it included in its request to be designated as a database administrator information to show that it complies with the rule changes adopted in the 2010 *Second MO&O* and states that it would not use its capacity as a database manager to engage in any discriminatory or anti-competitive practices or practices that may compromise the privacy of users.¹⁸

9. Consistent with our previous actions designating database administrators, we will require Nominet to take part in any future workshops that may be held by OET that address database implementation details and provide guidance on the requirements to the database administrators. In addition, we will require Nominet to cooperate with any steps that OET deems necessary to ensure that the white space databases provide accurate and consistent lists of protected services and available channels. Further, it 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. Further, considering that the Commission has made several changes to the white space rules in its 2015 *TV Bands Part 15 Report and Order*, adopted subsequent to the last time that we designated white space database

¹² Nominet proposal at 12-13. The Commission adopted the most recent revisions to the white space rules in 2015 that must be implemented by the white space database administrators. These include changes to the channels that can be used by white space devices, higher power limits for fixed devices in less congested areas, shorter separation distances for lower power devices, fixed device operation at locations where there are fewer than three contiguous vacant channels, allowing operations in channel 37 under specified power limits and separation distances, and allowing 600 MHz band licensees to register for protection in areas where they have commenced operation. *TV Bands Part 15 Report and Order*, 30 FCC Rcd 9551. As noted above, several petitions for reconsideration of some of these rules currently are pending before the Commission.

¹³ *Office of Engineering and Technology Seeks Comment on Nominet UK Proposal to be Designated as a White Space Database Administrator*, Public Notice, DA 18-351 (OET Apr. 9, 2018).

¹⁴ Comments were filed by 6Harmonics, Inc. and Redline Communications.

¹⁵ 6Harmonics comments at 1.

¹⁶ Redline comments at 3.

¹⁷ *Supra* para. 5

¹⁸ Nominet proposal at 8-9, 11.

administrators, we are making Nominet's approval subject to the additional condition that it implement these rule changes in its database.¹⁹

10. Also consistent with our previous actions, Nominet's database will be subject to a 45-day trial period before it is allowed to be made available for actual use by white space devices to allow interested parties an opportunity to check that the database is providing accurate results.²⁰ However, we may extend this trial period if necessary to ensure that the database provides accurate channel availability information. OET will determine the details of the trial, balancing the need to ensure that the database is working properly with the need to avoid an unnecessarily cumbersome and burdensome process.

11. If Nominet successfully satisfies all of the conditions herein, it will be allowed to make its database available for actual use for the five-year term specified in our rules.²¹ In such case, OET will announce the public availability of the database, at which time the five-year term for that database will commence.

12. In summary, we have considered Nominet's proposal and the comments filed in response to OET's April 9, 2018 public notice. We conclude that Nominet is capable of meeting the Commission's regulatory requirements for serving as a database administrator as set forth in the Commission's rules. Accordingly, we are designating Nominet UK as a white space database administrator, subject to the conditions described above.

IV. PROCEDURAL MATTERS

13. For additional information concerning this Order, please contact Mr. Hugh L. Van Tuyl at (202) 418-7506 or Hugh.VanTuyl@fcc.gov, or Matthew Hussey at (202) 418-3619 or Matthew.Hussey@Matthew.Hussey@fcc.gov.

V. ORDERING CLAUSES

14. Accordingly, **IT IS ORDERED** that, pursuant to the authority contained in Sections 4(i), 302, 303(e), 303(f), and 307 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 302, 303(c), 303(f), and 307, and Sections 0.31 and 0.241 of the Commission's rules, 47 C.F.R. §§ 0.31, 0.241, Nominet UK **IS CONDITIONALLY DESIGNATED** as a white space database administrator as set forth in Section 15.715 of the Commission's rules, 47 CFR § 15.715, subject to the conditions specified above.

FEDERAL COMMUNICATIONS COMMISSION

Julius P. Knapp
Chief, Office of Engineering and Technology

¹⁹ *Supra* note 14. We recognize that certain decisions in the 2015 *TV Bands Part 15 Report and Order* are the subject of pending petitions for reconsideration. If the Commission makes any changes to the white space rules on reconsideration, or at any later time, Nominet will be required to modify its database, if necessary, to implement such changes.

²⁰ See Office of Engineering and Technology Announces the Opening of Public Testing for Nominet White Space Database System, ET Docket No. 04-186, Public Notice (OET, June 11, 2018) (issued concurrently with this Order).

²¹ 47 CFR §15.715(h).