

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

In the Matter of)	
)	
National Association of Broadcasters)	Docket No. _____
Petition to Amend Sections 47 C.F.R)	RM - _____
15.711(b) and 47 C.F.R 15.717)	
)	
Regarding Changes to Certain Rules for)	
Unlicensed Operations in the Television)	
Bands, Repurposed 600 MHz Band, 600)	
MHz Guard Bands and Duplex Gap and)	
Channel 37)	
)	

**EMERGENCY MOTION FOR SUSPENSION OF OPERATIONS
AND PETITION FOR RULEMAKING**

**NATIONAL ASSOCIATION OF
BROADCASTERS**

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**EMERGENCY MOTION FOR SUSPENSION OF OPERATIONS
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Pursuant to Section 1.401 of the Commission’s rules, the National Association of Broadcasters¹ (NAB)² hereby petitions the Commission to initiate a rulemaking to amend Sections 15.711(b) and 15.717 of its rules to correct serious design flaws in the television white space (TVWS) database system. Given these fatal flaws, Petitioner also moves for suspension of operations of the TVWS database pending completion of this rulemaking or, in the alternative, for adoption of temporary certification mechanisms to

¹ NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and broadcast networks before Congress, the FCC and other federal agencies, and the courts.

² Petitioner represents local broadcast television stations that will be harmed if the Commission fails to amend the rules. As detailed below, available evidence strongly suggests that there is a fundamental flaw in the TVWS permission system, which is designed to ensure that TVWS devices operate only in manner that strictly avoids harmful interference to licensed services.

ensure the integrity of each existing and new entry in the database. Amending the current rules and creating an accurate and reliable TVWS database system is critical for TVWS device makers and incumbents alike – both for the success of the TVWS regime and for the Nation’s aspirations for widespread successful spectrum sharing in the future between incumbents and new entrants in other bands.

I. INTRODUCTION AND SUMMARY

Petitioner seeks to ensure that the FCC’s precedent-setting spectrum-sharing database operates as the Commission intended by strengthening the system’s overall integrity. The current database design allows – and may encourage – users of TV white space devices (also known as TV Band Devices or TVBDs) to falsify information they are required to enter into the database when they register certain fixed and mobile devices. This information includes, among other things, the location information upon which the Commission premised the entire concept for spectrum sharing in the TV band.

This problem is not merely abstract, but is occurring throughout the TVWS database today. As detailed in the declaration of Bruce Franca, NAB has conducted multiple analyses of the TVWS database over the last year. At various points, *more than one-third* of the fixed TVBDs in the database contained patently inaccurate location information, including multiple devices registered in the middle of empty fields or to a single family home, and some even registered in foreign countries.³ Because these

³ Attached is the Declaration of Bruce A. Franca, Vice President, Science and Technology (Franca Declaration), which attests to the details concerning NAB’s analysis of the publicly available information concerning database registrations. The Commission’s rules do not mandate that the actual TVWS database be publicly reviewable, but all Administrators are required to “[p]rovide a means to make all the information the rules require the database to contain publicly available, including fixed TVDB registrations” 47 C.F.R. § 15.715(m).

registrations serve as the critical link for other TVBDs that currently are not required to register in the database, the harms cascade, threatening to render the entire TVWS spectrum-sharing construct an unworkable morass.⁴

False information in the database greatly increases the likelihood of harmful interference to licensed users, including over-the-air television, wireless microphones, wireless handsets and wireless medical telemetry service (WMTS). NAB has identified four major issues that must be addressed to prevent this harm to TVWS users and beyond. *First*, the FCC must suspend operation of the TVWS database and any associated services until the Commission can verify that erroneous information in the database has been corrected and that each new entry will be subject to heightened certification. *Second*, the FCC must require TVWS device manufacturers to include geolocation capability in all devices. This ubiquitous and affordable technology, already in smartphones, would automate, and ensure the integrity of, the device location process. *Third*, the FCC should create a workable enforcement regime that requires automatic checks of information accuracy at input, establishes periodic audits and reporting to the Commission and imposes responsibility on database administrators who fail to correct false or inaccurate information. *Fourth*, the FCC must hold in abeyance its recently initiated Notice of Proposed Rulemaking⁵ considering other modifications

⁴ The Rules provide that television channel availability is generally determined based on the geolocation and database access method. The geographic coordinates of fixed TVBDs may be determined either by an incorporated geolocation capacity or a professional installer. 47 C.F.R. § 15.711(b). The party who registers the fixed TVBD in the database is responsible for ensuring the accuracy of the entered coordinates. *Id.* While Mode II personal/portable TVBDs use internal geolocation capability to determine available channels, 47 C.F.R. § 15.703(f), Mode I personal/portable TVBDs receive a list of available channels either from a fixed or Mode II TVBD. 47 C.F.R. § 15.711(b)(3)(iv).

⁵ *Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37,*

expanding the TVWS regime, pending the resolution of this rulemaking. Although the TVWS expansion Notice is currently being explored in the context of the incentive auction, there is no reason it needs to be; the Commission therefore does not need to and *should not* alter the incentive auction schedule as a result. The public interest will not be served by encouraging the entry of more TVWS devices into the marketplace under the transparently flawed regulatory structure now in place.

Given that many policymakers view spectrum sharing via database-centered interference safeguards as critical to future U.S. spectrum policy, it is essential that the Commission correct these fundamental flaws now. Fortunately, because white spaces innovation remains in a nascent stage, the clearly foreseeable harms have yet to materialize on a broad scale, giving the Commission the opportunity to alter its original regulatory construct to ensure that the TVWS service is built on a firm foundation. The need to do so promptly should be obvious: If the government employs similar databases in other contexts, critical federal government uses, commercial incumbents central to the wireless economy, and millions of consumers could see their services jeopardized. Absent the action requested here, the Commission would be left without the tools necessary to enforce its sharing regime or to promote the critical investment and innovation for which these regimes are designed.

The potential implications of inaction on this Petition extend well beyond white spaces. The Commission and its leadership both have signaled the TVWS database approach to accommodating shared uses of spectrum could be a model for similar

ET Docket No. 14-165, et al., Notice of Proposed Rulemaking, 29 FCC Rcd 12248 (2014) (Notice).

interference protection measures for other shared bands in the future.⁶ The Commission already understands from experience that negative externalities caused by the proliferation of interfering devices can render sharing and interference protection impossible. Here, despite the initial errors described above, the TVWS service has fortunately yet to materialize and interference protection of incumbent users can still be salvaged with minimal or no impact on consumers or the long term success of the service. Delay in action will jeopardize the integrity of future sharing regimes that rely on database mechanisms.

II. THE TV WHITE SPACE REGIME IS PREMISED ON SOUND INTERFERENCE PROTECTION FOR LICENSED USERS OF THE SPECTRUM

A. TVWS Database Rules Require Device Users to Register Location in Order to Obtain Access to Non-Interfering Frequencies

Accurate location information for fixed TVBDs is the linchpin of the TVWS interference management regime. The TVWS rules classify three types of TVBDs and establish different requirements for each. Fixed TVBDs are authorized to operate at higher power than either of the two classes of mobile TVBDs, known as Mode I or Mode II devices, which raises the potential for fixed devices to trigger more acute interference problems.⁷ Moreover, because the fixed devices are stationary, the coordinates at

⁶ *Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, ET Docket Nos. 04-186; 02-380, Second Memorandum Opinion and Order, 25 FCC Rcd 18661, ¶ 1 (2010) (*Second MO&O*)(action expected to spur investment and innovation “not only in the TV band but eventually in other frequencies as well”); *id.* at 18757 (Statement of Com’r McDowell)(“the protocol developed in this proceeding for ‘smart use’ of this spectrum has great potential for enabling access to and improving efficiency in other frequency bands”).

⁷ *Unlicensed Operation in the TV Broadband Bands*, First Report and Order and Further Notice of Proposed Rulemaking, ET Docket No. 04-186, 21 FCC Rcd 12266, ¶ 8 (2006) (First R&O). Neither Mode I nor Mode II mobile devices need to register in the TVWS database, although Mode II devices may obtain information about white spaces availability directly from the database. *Second MO&O* at ¶ 6; 47 C.F.R. § 15.711(b)(3)(ii). Mode I devices may not

which they operate should be easily discernable and reportable in the database – which is why they also serve as the gateway for disseminating accurate information about available white-space frequencies from the TVWS database to mobile devices.⁸

The Rules require fixed TVBD users to register location information to obtain access to non-interfering frequencies prior to commencing initial operations and each time after changing locations.⁹ The Rules also require users to provide other identifying information so that the Commission can locate users in the event of interference to licensed operations.¹⁰ Specifically, before operating for the first time or after changing locations, a fixed TVBD must register with the TV bands database by providing: (1) the FCC ID of the device; (2) the manufacturer's serial number of the device; (3) the device's geographic coordinates accurate to +/- 50 m; (4) the name of the individual that owns the device; (5) the name of a contact person responsible for the device's operation; (6) the address for the contact person; (7) an e-mail address for the contact person; and (8) a phone number for the contact person.¹¹ Under the current rules, the

communicate directly with the database; instead, they are completely dependent on fixed TVBDs or Mode II TVBDs to relay accurate information about frequencies that are open for unlicensed uses in any particular area. *Second MO&O* at ¶ 9; 47 C.F.R. § 15.711(b)(3)(iv).

⁸ *Second MO&O* at ¶78 (noting that mobile devices “will change locations, making identification of both unused TV frequencies and the devices themselves, if interference occurs, more complex and difficult”).

⁹ 47 C.F.R. § 15.713(f)(1), (3); *Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, ET Docket Nos. 04-186; 02-380, Second Report and Order and Memorandum Opinion and Order, 23 FCC Rcd 16807, ¶ 85 (2008) (*Second R&O*).

¹⁰ 47 C.F.R. § 15.713(f)(1), (3); *Second R&O* at ¶ 90.

¹¹ 47 C.F.R. § 15.713(f)(1), (3).

party responsible for a fixed TVBD must ensure that the TVBD registration database has the most current, up-to-date information for that device.¹²

B. The Commission Only Authorized TVWS Operations after Finding that the Database Provided a Reliable Interference Protection Regime

The Commission conditioned the initial authorization of TVWS operations on the development of a trustworthy interference protection regime,¹³ ultimately settling on geolocation and database access as an appropriate method of protecting licensed operations from interference. The Commission also committed to update the rules as necessary to provide continued interference protection.

Specifically, in authorizing TVWS operations in the *Second R&O*, the FCC recognized it was “most important [to] ensure that new unlicensed devices do not interfere with the incumbent licensed services in the TV bands”¹⁴ and pledged to “take whatever actions may be necessary to avoid, and if necessary correct, any interference that may occur. Further, we will consider in the future any changes to the rules that may be appropriate to ... better protect against harmful interference to incumbent communications services.”¹⁵ The Commission viewed its actions in the *Second R&O* as a “conservative first step that includes many safeguards to prevent harmful interference

¹² 47 C.F.R. § 15.713(f)(2).

¹³ “To ensure that no harmful interference to authorized users of the spectrum will occur, we propose to define when a TV channel is “unused” and to require these unlicensed devices comply with significant restrictions and technical protections.” *Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, ET Docket Nos.04-186, 02-380, Notice of Proposed Rulemaking, 19 FCC Rcd 10018, ¶ 2 (NPRM).

¹⁴ *Second R&O* at ¶ 33.

¹⁵ *Second R&O* at ¶ 1.

to incumbent communications services.”¹⁶ In the same spirit of caution, the Commission anticipated that as it continued to learn about the potential for TVBDs to cause interference to licensed services, it might need to revisit the rules to “refine the protections for licensed services.”¹⁷

In the *Second R&O*, the Commission considered methods of interference protection other than the geolocation/database method, including allowing devices to rely solely on spectrum sensing technologies. However, the Commission decided that “spectrum sensing with capabilities as presented in the record of this proceeding would not, by itself, be sufficient to adequately protect from interference television and other licensed services that use the TV bands.”¹⁸ The Commission then determined that it would be “relatively straightforward for an unlicensed TVBD with geolocation capability to access a database system which would determine whether the TVBD is sufficiently far outside the protected service areas of licensed TV band services to ensure that it will not cause interference to those services.”¹⁹ Although the FCC’s choices for safeguarding the integrity of the database have proven untenable, the agency’s objective was “the accuracy and reliability of the location information” entered into the database. The general requirement that “a device not operate until and unless the geolocation/database process has been completed” should suffice “to ensure that

¹⁶ *Second R&O* at ¶ 1.

¹⁷ *Second R&O* at ¶ 3.

¹⁸ *Second R&O* at ¶ 73.

¹⁹ *Second R&O* at ¶ 90.

devices are provided a *reliable* list of the channels used by TV and other licensed fixed transmitters in their area.”²⁰

Since adopting the TVWS interference protections in 2010, the Commission has shown a willingness to take additional steps when necessary to enhance those protections.²¹ It must do so again now to make the TVWS sharing regime viable and secure.

III. THE CURRENT TVWS DATABASE IS DEEPLY FLAWED, POPULATED WITH WIDESPREAD INACCURATE DATA AND REQUIRES IMMEDIATE COMMISSION ACTION TO PRESERVE THE FUTURE OF THE BAND FOR ALL USERS

Petitioner’s extensive review reveals that the data used by the database administrators to determine proper operating channels for unlicensed devices are incomplete, wildly inaccurate, if not deliberately false, and virtually useless for their intended purpose.²² Many users have failed to provide information, or have provided false information, in all nine of the required fields of the database. For example, publicly available information from the database shows that users or professional installers have:

²⁰ *Second R&O* at ¶ 90 (emphasis added).

²¹ For example, in 2012, OET issued an order granting in part requests for a waiver of Section 15.712(b) of the Commission’s rules to register in the TV bands databases certain low power TV and Multichannel Video Program Distributor receive sites that are more than 80 km outside the protected contour of the TV stations they receive. OET concluded granting the waivers would serve the public interest because it would provide protection for “vital incumbent TV services” while providing sufficient spectrum for TV band devices to operate reliably. *Unlicensed Operation in the TV Broadcast Bands; Requests for Waiver of Section 15.72(b) to Register Certain TV Receive Sites in the TV Bands Database*, ET Docket No. 04-186, Order, 27 FCC Rcd 11163, ¶¶ 8-9 (2012).

²² As attested in the attached Franca Declaration, NAB reviewed the TV White space databases on: May 21, June 20, July 1, August 11, August 13, September 23, November 20, and December 30, 2014; January 20, and February 19, 2015.

- **Entered false or questionable names or ignored the requirement to identify themselves.** Many devices included no information in the Device Owner field, while others listed “NoneNone” as the device owner. Several users have provided names such as “Sue Q. Public,” “John Doe,” and “John Smith” as the contact person for their devices. One device even listed “first_last” as the contact. Dozens of devices provide “lin sun” as the contact person – “lin sun” happens to be the sample name for the contact field in the software provided with this type of device. At one point, more than 80 devices listed “Meld test” as the contact name.
- **Provided invalid FCC IDs for registered devices.** For example, the database contained a device with the FCC ID OPS1. This invalid FCC ID was used by the FCC for testing equipment authorization software.
- **Supplied fake serial numbers for registered devices.** These included obviously erroneous entries such as “Dan”, “test”, and “SN-0000.”
- **Falsified their contact information or ignored the requirement to provide it.** Fake e-mail addresses included “jd@example.com,” “john@doe.com,” “js@email.com,” “name@gmail.com,” “none@none.com,” and “spublic@gmail.com.” False addresses include “addr,” “456 Main Street, Anytown, USA,” “1234 N 1st Street, City, CA,” “123 Jumpstreet, Richmond, VA,” and “123 Jumpstreet, San Francisco, CA.” As for telephone numbers, users of hundreds of devices failed to provide anything, while a number of other users provided fake numbers such as “232-555-1212,” “408-111-1111,” “888-123-1234,” “408-1234667,” “(999) 999-9990” “(999) 999-9999” and “448000000000.”

While each of these data inaccuracies alone are a cause for concern – especially in the event of harmful interference to other services – inaccuracies in location information are even more problematic. In one of our recent reviews of the database, more than *one third* of the device registrations contained obviously false or highly dubious location information.

For example, NAB found one device registered as being located 30 miles from Quito, Ecuador. Another was registered to a spot in the Atlantic Ocean, about 500 miles off the coast of Cameroon. Our researchers found several dozen devices located at a single family home, numerous devices registered as being located in the middle of a street, and devices registered in the middle of empty fields. We found more than 20

devices registered to a location at a large water tower in Peru, Indiana, although all the devices were registered at two meters above ground.

Whether users are misusing the database because of concerns over providing their actual location, willful circumvention of the rules to operate on more channels than permitted, or sheer laziness, the result is the same: The significant number of false entries undercuts the integrity of the database and defeats its intended purpose.

The data reveals that the Commission's initial hope that so-called "professional installers" would help to ensure the database's integrity (in the absence of geolocation capability) has proven misplaced. The FCC determined that the "task of ascertaining geographic coordinates and entering them into a device is not particularly difficult or complex," and that it is "adequate to simply provide that a professional installer may be responsible for assuring [sic] the accuracy of the entered coordinates."²³ Yet the Commission has never clearly delineated the requirements of a "professional installer." Indeed, it declined to modify its rules to define professional installer requirements.²⁴ In turn, no class of TVWS device professional installers has developed. Nor does it seem reasonable to expect that such a professional class would ever develop or even be relied upon for installation. In fact, at least one manufacturer makes its "professional installer manual" available on its website, so that anyone can "professionally install" its

²³ *Second MO&O* at ¶ 150.

²⁴ In declining to adopt stricter rules for professional installation, the Commission noted that it intends "that a "professional installer" mean an entity consisting of an individual or team of individuals with experience in installing radio communications equipment and that provides service on a fee basis – such an individual or team can generally be expected to be capable of ascertaining the geographic coordinates of a site and entering them into the device for communication to a database." *Id.*

devices.²⁵ Further, many devices are available for purchase directly online, thus bypassing professional installation entirely. As a result, even a cursory review of the database shows that installation of many devices has been anything but professional (or even honest).

Despite the ramshackle condition of the database, the fact that TVWS innovation has yet to materialize has prevented the potentially devastating impact on incumbent neighboring licensees. Five years have passed since the Commission finalized rules that allowed unlicensed device operation in the TV bands, and there currently are only about 550 devices – all fixed devices with no in-device geolocation mechanism – registered in the TV Bands database.²⁶ The stagnancy of unlicensed uses of white spaces has given the Commission a rare second bite at the apple to ensure interference protection before possibly widespread consumer use wreaks havoc on shared bands.

IV. USE OF THE ERROR-RIDDEN DATABASE MUST BE SUSPENDED UNTIL THE COMMISSION CAN TAKE STEPS TO PREVENT THE ENTRY OF ANY ADDITIONAL MISINFORMATION

After several years of operation, the database plainly lacks effective safeguards to ensure its reliability in either preventing interference in the first place or supporting Commission enforcement action if needed. Given the database's systemic flaws, the

²⁵ See ACRS 2.0 Professional Installer Manual, available at: http://www.adaptrum.com/acrs2launch/content/acrs20_professional_installer_02062014.pdf.

²⁶ The March 10, 2015 TV band databases managed by Google and Spectrum Bridge included 558 fixed devices. Note, however, that the iConnectiv database listed 621 devices on the same date. Under existing rules, database administrators are required to ensure harmonization of their databases at least daily. The difference between the Google and Spectrum Bridge databases and the iConnectiv database demonstrates *yet another error* in the design of the database system and highlights why the Commission must correct these systemic problems.

Commission should act on an emergency basis to immediately suspend its operation until the agency can verify that all entries are complete and reliable. This suspension need not be onerous or prolonged. For example, the FCC could establish a temporary emergency certification mechanism under which TVBD users attest to the accuracy of the information they provide, subject to FCC sanction for any inaccuracies that are not quickly corrected.

Ultimately, adoption of the new rules proposed below will substantially improve the database's usefulness, but harmful interference to licensed operations will remain a threat if the bad data already in the database is allowed to remain.

V. THE COMMISSION MUST AMEND THE TVWS DATABASE RULES IN TWO WAYS TO ENSURE RELIABILITY AND EFFECTIVE ENFORCEMENT

The level of inaccuracy in the database warrants a re-evaluation of the Commission's approach to preventing interference with licensed services. This is not a matter of cleaning up the database, or wagging a stern finger and instructing unlicensed users to live up to their obligations. Rather, these pervasive inaccuracies clearly indicate that the Commission's approach of allowing users to register with the database independently, with no supervision or approval, and with only an amorphous "professional installation" obligation as a safeguard, cannot work.

It is therefore essential that the Commission find a way forward that both enables TVWS operations to flourish and protects licensed users in the TV band. The key is to minimize the potential for TVBD users to undermine the system.

Petitioners specifically propose the following rule changes: First, the Commission should amend Section 15.711(b)(1) to require the incorporation of geolocation capability in every fixed and mobile device. In other words, the FCC must eliminate the

“professional installer” option that has failed to ensure accurate location information in the database. Left in place, the professional installation alternative inevitably will allow increasing numbers of interfering devices to operate in the TV bands.

Requiring all fixed TVWS devices to include geolocation capability would not be cost-prohibitive. Every major model of smartphone includes geolocation capability, for example. Currently, fixed TVWS devices cost well in excess of \$1,000. Adding geolocation capability would represent only a nominal cost – with higher quantities of devices produced, GPS or other geolocation capability should cost no more than a few dollars. This change would virtually guarantee that TVWS devices do not interfere with licensed services and should not, in any way, negatively affect the market for TVWS devices. Even if the TVWS market develops and the price of devices is reduced, the corresponding price to include geolocation capability in each device will likewise reduce because of scale economies. In short, there is no logical reason to not require geolocation capability in every fixed device.

Second, the Commission must incorporate real and effective accountability measures into the TVWS database rules to ensure the integrity of the registration information, support the investigation of interference complaints, and sanction the responsible party for any failure to swiftly come into compliance with the TVBD operational requirements and database registration rules. This can be accomplished by amending Section 15.715 of the rules. Current FCC rules require that the party responsible for a white space device is also responsible for the accuracy of the information registered in the database for that device.²⁷ As detailed above, this

²⁷ 47 C.F.R. § 15.713(f)(2).

approach – which has led to fake names, addresses, phone numbers and email addresses – has clearly failed. The Commission cannot rely on users alone to enter accurate information in the database.

Database administrators are an additional line of defense against flawed database entries. First, database administrators are actually the professionals in the equation, counting among them multinational corporations such as Google. Every day credit card companies and a variety of online vendors screen data entry fields for accuracy and completeness. A parallel requirement should be placed on database administrators here to confirm at least the facial integrity of the data submitted. For example, database administrators could confirm e-mail addresses and telephone numbers before allowing a registration to be completed. Many services generate automatic confirmation e-mails that require users to click a link to confirm their enrollment. At a minimum, this would ensure that the FCC and licensees receiving such interference would have a means of contacting the responsible party for a particular device. This extremely low burden for professional database administrators should vastly improve the integrity of the dataset. Moreover, the Commission should consider establishing periodic audits and reporting requirements to the agency,²⁸ and impose clear consequences on database administrators, and not just device users, who fail to correct false or inaccurate information promptly.

²⁸ Members of the public also can serve to help ensure the accuracy of database entries, as the public disclosure rule, 47 C.F.R. § 15.715(m), already reflects. The Commission should bolster the effectiveness of this requirement by specifying that the database information should be accessible from each administrator's website or a jointly maintained website. The database information also should be routinely and frequently updated online.

VI. THE FCC MUST POSTPONE RESOLUTION OF THE PENDING TVWS NOTICE WHILE PRESERVING THE INCENTIVE AUCTION SCHEDULE

Because of the systemic and self-evident flaws in the current TVWS database design, the Commission also must suspend action on its recently initiated TVWS Notice until those flaws are corrected. The FCC initiated that Notice in anticipation of fewer white space channels being available after the incentive auction and repacking of the broadcast band. Some commenters in the proceeding contend that more liberalized rules are needed to bring commercial uses of TVBDs to market.²⁹ Other parties, including NAB and CTIA, while supportive of TVWS generally, expressed concerns that many of the proposed rule changes go too far, including proposals that would allow fixed operation on channels adjacent to broadcast television and unlicensed device operation in both the post-incentive auction 600 MHz guard band and duplex gap.³⁰

The Notice asserts that the Commission has “had extensive experience working” with the database and has a “high degree of confidence” that the database can protect licensed users.³¹ As demonstrated above, this confidence is wholly unfounded. The FCC cannot reasonably expect that new information entered into the TVWS database will be any more reliable than the current data. To the contrary, the interference

²⁹ See, e.g., Comments of Microsoft Corp., ET Docket No. 14-165, et al. (filed Feb. 4, 2015), at 1.

³⁰ Several commenters have pointed out that certain proposals lack the technical support needed to justify FCC adoption. See, e.g., Reply Comments of National Association of Broadcasters, ET Docket No. 14-165, et al. (filed Feb. 25, 2015), at 5-6 (no reliable evidence to justify proposed encroachment on TV station operations); Reply Comments of GE Healthcare, Docket No. 14-165, et al. (filed Feb. 25, 2015), at 4-7 (rebutting technical arguments for proposed encroachment on wireless medical telemetry equipment); Ex Parte Presentation of CTIA-The Wireless Association, Docket No. 14-165, et al. (filed Feb. 27, 2015), at 2 & Att. at 5 (supplying testing data that demonstrates need for larger frequency buffers in the duplex gap and guard bands).

³¹ Notice at ¶ 30.

challenges would likely be much more severe following the incentive auction: The combination of fewer available channels post-auction and a potential spike in white-space users means that the margin for error between compatible operation and interference will shrink significantly.

Petitioner wants to stress, however, that delaying action on the Notice should in no way impact the timing of the broadcast TV spectrum incentive auction. The TVWS issues are severable from the auction proceeding and can be resolved post auction without affecting the auction process itself. More importantly, fixing the TVWS database now to ensure the reliability of its information – and thus enable it to serve its intended purpose – will be the best grounding for successful TVBD uses later.

VII. CONCLUSION

Preventing interference and ensuring the efficient, rather than chaotic, use of spectrum is a core FCC responsibility, dating back to the establishment of the Federal Radio Commission in 1927. Experience now shows that, when left to their own devices, many TVBD users routinely enter false location information, either through error or mischief. To compound the problem, because many users also enter false contact information, the FCC and licensees do not even know whom to contact to resolve any problems. Petitioner respectfully requests that the Commission suspend operation of the current database as well as its current TVWS expansion Notice and open a rulemaking proceeding to address this pressing concern. The FCC must revise its rules

to solidify a spectrum-sharing framework that functions for all operators in the TV bands
– and that may serve as a model for sharing in other spectrum bands in the future.

Respectfully submitted,

**NATIONAL ASSOCIATION OF
BROADCASTERS**

A handwritten signature in black ink, appearing to read "Rick Kaplan", with a long horizontal line extending to the right from the end of the signature.

Rick Kaplan
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March 19, 2015

ATTACHMENT

Declaration of Bruce A. Franca NAB Vice President, Science and Technology

I, Bruce A. Franca, hereby declare under penalty of perjury that the following is true and correct to the best of my knowledge, information and belief:

1. My full name is Bruce A. Franca. I am currently Vice President, Spectrum Policy at the National Association of Broadcasters.

2. Immediately prior to taking my current position, I served as Vice President, Technology and Policy at the Association for Maximum Television, Inc., an organization focusing on broadcasting technology and spectrum policy issues. Earlier in my career, I spent 33 years as an engineer at the Federal Communications Commission, rising to Chief of the FCC's Office of Engineering and Technology before I left government service. I have a degree in Electrical Engineering from Pratt Institute, Brooklyn, New York, and have done graduate work in Electrical Engineering at the George Washington University.

3. I reviewed publicly available information concerning the TV White Spaces ("TVWS") databases on: May 21, 2014; June 20, 2014; July 1, 2014; August 11, 2014; August 13, 2014; September 23, 2014; November 20, 2014; December 30, 2014; January 20, 2015; February 19, 2015; and March 12, 2015.

4. On each of the dates listed in paragraph 3 above, I reviewed TVWS registration files of various TVWS database administrators. These files included entries for each category of information TVBD users are required to enter in the TVBD database under 47 C.F.R. § 15.713(f)(2): the FCC ID of the device; the manufacturer's serial number of the device; the device's geographic coordinates; the name of the individual or business that owns the device; the name of a contact person responsible for the device's operation; the address for the contact person; an e-mail address for the contact person; and a phone number for the contact person.

5. For the FCC ID category, I identified obviously invalid entries, such as the FCC ID used by the FCC for testing equipment authorization software.

6. For the manufacturer's serial number category, I identified obviously false serial numbers, such as those including common words and no numbers, or populated with a series of zeros.

7. For the geographic coordinates category, I entered the coordinates for facially questionable entries into publicly available mapping programs provided online by Google, Microsoft, and others, to determine whether such locations could reasonably be used for fixed TVBDs.

8. For the device owner and contact person categories, I identified registrations that provided no information and registrations that provided obviously false or highly questionable names.

9. For the address, e-mail address and phone number for the contact person categories, I identified registrations that either provided no information or provided obviously false or highly questionable addresses, e-mail addresses and phone numbers.

I am familiar with the contents of the foregoing Petition for Rulemaking. The factual assertions made in the Petition for Rulemaking are true to the best of my knowledge, information and belief.

Dated: March 18, 2015

A handwritten signature in black ink, appearing to read "Bruce Franca", written over a horizontal line.

Bruce A. Franca