**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**OFFICE OF ENGINEERING AND TECHNOLOGY**
**Washington, D.C. 20554**

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| In the Matter of | ) | |
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| Office of Engineering and Technology Releases and | ) | ET Docket No. 13-26 |
| Seeks Comment on Updated OET-69 Software | ) | GN Docket No. 12-268 |

To: The Office of Engineering and Technology

# COMMENTS OF THE NATIONAL ASSOCIATION OF BROADCASTERS, FOX ENTERTAINMENT GROUP, CBS CORPORATION, NBCUNIVERSAL, LLC, ABC OWNED TELEVISION STATIONS, ABC TELEVISION AFFILIATES ASSOCIATION, CBS TELEVISION NETWORK AFFILIATES ASSOCIATION, FBC TELEVISION AFFILIATES ASSOCIATION, AND NBC TELEVISION AFFILIATES

March 21, 2013

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## Executive Summary

An incentive auction of broadcast television spectrum is a complicated process involving numerous moving components. One of those components is the software used to calculate broadcast licensees' coverage and interference levels. The National Association of Broadcasters ("NAB") continues to support the Commission's efforts to comply with the Spectrum Act and fashion an incentive auction that facilitates growth and innovation both in mobile broadband and broadcasting, and to conduct the auction as expeditiously as reasonably possible. NAB also supports the Commission's efforts to ensure active participation by all concerned parties.

Nevertheless, NAB firmly believes that the changes to the OET-69 methodology proposed in the *TVStudy* software are plainly unlawful under the Spectrum Act and applicable FCC regulations. Moreover, even if the proposed changes could be viewed as lawful, they are fundamentally flawed in their execution. And even if the *TVStudy* software's numerous defects could be rectified, the timing of the proposed changes—on the cusp of the incentive auction, yet before the auction's procedures have been determined—is the height of arbitrary and capricious agency action. NAB's comments thus focus on at least four problems with the proposed changes to OET-69.

First, the proposed *TVStudy* software fundamentally alters the "methodology" of OET-69. In enacting the Spectrum Act, Congress understood that the "methodology" of OET-69 included both the contents of OET Bulletin 69 and the key features of the OET-69 software used to calculate broadcast television licensees' coverage area and population served (collectively, "OET-69" or "OET-69 methodology"). The proposed *TVStudy* software therefore violates Section 6403(b)(2) of the Spectrum Act, which expressly directs the Commission to "preserve, as of the date of the enactment of this Act, the coverage area and population served of each

broadcast television licensee, as determined using the methodology described in OET Bulletin 69 of the Office of Engineering and Technology."[1] The OET-69 methodology is a well-understood system that has been employed in a predictable manner for many years to calculate coverage area, population served, and interference. That Congress adopted this term of art without modification demonstrates its approval of the OET-69 methodology as it was understood and applied on the date of enactment. Accordingly, the Commission and OET lack authority to use the alternative *TVStudy* software in the incentive auction proceedings.

Second, even assuming that Section 6403(b)(2) does not bar the Commission and OET from using the *TVStudy* software in the incentive auction, the Commission is expressly required to "preserve, as of the date of the enactment" of the Spectrum Act, "the coverage area and population served of each broadcast television licensee"—meaning that any modifications must preserve coverage areas and interference as they were calculated on February 22, 2012. Instead, NAB's preliminary testing indicates that *TVStudy* will effectively redefine and substantially reduce the coverage areas and populations served for a significant number of television stations.[2] For example, initial testing showed that certain stations in California and Washington would lose more than one third of their predicted viewers—a devastating loss that could deprive viewers of their existing service, contrary to congressional intent. In addition, *TVStudy* will increase full power licensees' predicted interference because, for the first time, it extends OET-69 to include interference from low power stations and translators. These proposed modifications cannot be squared with the Commission's obligations under the Spectrum Act.

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[1] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, 126 Stat. 156, § 6403(b)(2) (Feb. 22, 2012) (codified at 47 U.S.C. § 1452(b)(2)) ("Spectrum Act").

[2] Initial testing indicates that *TVStudy* will redefine the service population coverage for at least 99.9% of the stations and will reduce coverage area and population for approximately 61% of the stations. Declaration of Victor Tawil ¶ 10 [hereinafter "Tawil Decl."].

Third, the changes proposed to OET-69 in the staff-level *Public Notice* must be made at the Commission level, following notice and public comment, as required by Commission rules and the Administrative Procedure Act, 5 U.S.C. § 500 *et seq.* Not only is it important that changes of this magnitude be considered and adopted by the Commission, rather than staff, but meaningful evaluation of the *TVStudy* software requires a formal comment period that provides commenters with sufficient time to assess and troubleshoot the software's features.

Fourth, the proposed changes will increase costs and create widespread uncertainty in the middle of a complex and congressionally-mandated proceeding, without any countervailing benefits. The incentive auction is already posing unprecedented technical challenges for the Commission, the wireless industry and existing broadcast licensees. There is no reason to compound this complexity and uncertainty by simultaneously overhauling OET-69, which Congress and the Commission previously have stated is the controlling standard. Indeed, by requiring the Commission to apply OET-69 in the incentive auction, Congress clearly sought to maintain viewers' television service and ensure the voluntary nature of the incentive auction by assuring broadcasters that they will continue to be able to serve the same coverage areas and population. The Commission's proposed changes to the OET-69 methodology would undermine the fundamental voluntary nature of the auction, introduce additional and unnecessary uncertainty in the auction process for all parties, and constitute arbitrary and capricious agency action.

For these reasons, and as explained more fully below, NAB encourages OET to refrain from implementing any modifications to the OET-69 methodology in conjunction with the incentive auction.

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To: The Office of Engineering and Technology

**COMMENTS OF**
**THE NATIONAL ASSOCIATION OF BROADCASTERS**

The National Association of Broadcasters ("NAB")[3] makes this submission in response to the Office of Engineering and Technology's Public Notice 13-138[4] announcing material changes to the methodology associated with OET Bulletin No. 69 ("OET Bulletin 69") and OET's intent to use a substantially modified version of the OET-69 methodology in the impending incentive auction of broadcast spectrum.[5] NAB continues to support efforts by the Federal Communications Commission ("FCC" or "Commission") to conduct the world's first-ever incentive auction and to ensure a fair and efficient repacking process. NAB, however, has serious concerns regarding OET's surprising announcement that it intends to use a modified

[3] NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

[4] *Public Notice*, "Office of Engineering and Technology Releases and Seeks Comment on Updated OET-69 Software," ET Docket No. 13-26 and GN Docket No. 12-268, DA 13-138 (Feb. 4, 2013) ("*Public Notice*").

[5] OET Bulletin No. 69, "Longley-Rice Methodology for Evaluating TV Coverage and Interference," Feb. 6, 2004, *at* http://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet69/oet69.pdf. OET Bulletin 69 describes how to use the Longley-Rice methodology to evaluate television coverage and interference in accordance with Sections 73.622, 73.623 and 74.704 of the FCC rules.

OET-69 methodology, referred to as *TVStudy*, to calculate existing broadcast licensees' population coverage and interference for purposes of the impending incentive auction, in direct contravention of Commission rules and Congress's express command that the Commission "preserve, as of the date of the enactment of [the Spectrum Act], the coverage area and population served of each broadcast television licensee, as determined using the methodology described in OET Bulletin 69 of the Office of Engineering and Technology."[6]

The Commission has indicated that it intends to hold the incentive auction in 2014.[7] NAB has previously expressed concerns about this timetable, as the auction will not only be the first of its kind anywhere in the world, but also will contain a host of complex moving and interrelated pieces: a reverse auction of broadcast spectrum never before attempted; a complex repacking of likely hundreds of television stations in a fraction of the time allotted during the digital television (DTV) transition; and a band plan that supports the coexistence of multiple technologies—high-powered and low-powered; private and public; licensed and unlicensed—adjacent to the 700 MHz band, which is still experiencing interference issues involving some of those same technologies. This auction also will likely result in the displacement of hundreds of television stations watched by millions of viewers, thus requiring planning, coordination and a

[6] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, 126 Stat. 156, § 6403(b)(2) (Feb. 22, 2012) (codified at 47 U.S.C. § 1452(b)(2)) ("Spectrum Act").

[7] The Notice of Proposed Rulemaking regarding the Commission's implementation of the Spectrum Act discusses holding an auction in 2014, and Chairman Genachowski has noted that in testimony before Congress. *See* Notice of Proposed Rulemaking in Docket No. 12-268, FCC 12-118 ¶ 10 (rel. Oct. 2, 2012) ("NPRM"); Testimony of Chairman Julius Genachowski, FCC—Hearing on "Keeping the New Broadband Spectrum Law on Track," before the House Subcommittee on Communications and Technology Committee on Energy and Commerce (December 12, 2012), *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db1212/DOC-317913A1.pdf. Under the Spectrum Act, the Commission has until the end of fiscal year 2022 to complete the auction. Spectrum Act, § 6403(f)(3).

commitment to minimize what promises to be a major disruption to American consumers.[8] OET's proposed overhaul of OET-69 threatens to compound these difficulties.

NAB offers the comments below based on its unique experience and understanding of broadcasting and, in particular, the repacking and relocation of broadcast facilities. Based on that expertise, NAB has serious concerns about the legal and practical implications of OET's proposal to modify the OET-69 methodology for purposes of the upcoming incentive auction.

## I. The *Public Notice* Purports To Alter The "Methodology" Of OET-69 In Violation Of The Spectrum Act.

On February 22, 2012, Congress passed the Spectrum Act, providing that:

> [i]n making any reassignments or reallocations …, the Commission shall make all reasonable efforts to preserve, *as of the date of the enactment of this Act, the coverage area and population served of each broadcast television licensee, as determined using the methodology described in OET Bulletin 69 of the Office of Engineering and Technology of the Commission.*[9]

This provision expressly directs the Commission not only to preserve broadcast licensees' coverage areas and populations served as they existed on February 22, 2012, but to calculate those values using the "methodology" described in OET Bulletin 69. "It is fixed law that words of statutes or regulations must be given their ordinary, contemporary, common meaning."[10] Webster's Third New International Dictionary defines "methodology" as "the processes, techniques, or approaches employed in the solution of a problem or in doing something: a particular procedure or set of procedures."[11] Thus, the OET-69 "methodology" includes both the contents of OET Bulletin 69 and the procedures—here, the software—for carrying it into effect. This interpretation is reinforced by Congress's command that the Commission "preserve, as of

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[8] *See generally* Comments of the National Association of Broadcasters, In the Matter of Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, Docket No. 12-268 (Jan. 25, 2013).

[9] Spectrum Act, § 6403(b)(2) (emphasis added).

[10] *FTC v. Tarriff*, 584 F.3d 1088, 1090 (D.C. Cir. 2009) (internal quotation marks and citations omitted).

[11] Webster's Third New International Dictionary of the English Language Unabridged 1423 (1976).

the date of the enactment of this Act, *coverage area and population served*," values which are generated only through the use of the OET-69 implementing software.[12] OET's proposed modifications—both to the contents of OET Bulletin 69 and to the software used to convert those contents into useable calculations—constitute changes to OET-69's methodology.[13]

As of February 22, 2012, OET Bulletin 69 and its software were an administratively accepted methodology that had been applied in a predictable manner for many years. Not only did OET-69 play a central role in the transition of the U.S. television industry from analog to digital and the subsequent repacking of digital stations from TV channels 52-69 to lower channels in the TV band, but the currently authorized service areas of all full-service television stations also were determined, directly or indirectly, using OET-69. OET-69 is the tool by which existing broadcast licensees know the scope of their licenses, including the population they are licensed to cover and the interference levels within which they must operate. Today, any entity applying for a new or modified license must employ the OET-69 methodology to calculate coverage and interference.

The phrase "methodology described in OET Bulletin 69" is therefore a term of art that was well established in 2012. When Congress uses a term of art without modification, Congress is presumed to have intended that term to have its established meaning.[14] Here, Congress

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[12] *See* OET Bulletin No. 69, at 1 ("A computer is needed to make these predictions because of the large number of reception points that must be individually examined.").

[13] The Consumer Electronics Association's ("CEA") contention to the contrary is perplexing. *See* CEA Letter on OET-69 Issues 3-4 (Mar. 18, 2013) ("CEA Comment"). Fidelity to the OET-69 "methodology" as it existed on February 22, 2012, requires maintenance of both the contents of OET Bulletin 69 and features of the implementing software that render those contents capable of calculating coverage area and population served. The changes to the software outlined in OET's Public Notice alter the predictive utility of OET-69 in calculating coverage area and population served, in violation of the Spectrum Act's directive to preserve these values as of February 22, 2012. To permit the Commission and OET to change components of the implementing software on grounds that these changes do not alter the contents of OET Bulletin 69, as CEA proposes, would effectively frustrate the Spectrum Act's mandate to maintain coverage area and population served and ensure consistency and certainty for broadcasters.

[14] *See, e.g.*, *Burgess v. United States*, 553 U.S. 124, 130 (2008) (construing language and structure of the statute as indication that Congress used the phrase "felony drug offense" as a term of art); *McDermott Int'l, Inc. v.*

presumptively intended that the version of OET-69 in existence on February 22, 2012 (understood to include OET Bulletin 69 and its implementing software)—rather than an entirely new program, with a different name and unique functions—be used to calculate coverage area and population served for broadcast licensees.[15] After all, if Congress intended to allow the Commission to redefine the methodology for calculating stations' coverage areas and populations served for purposes of the incentive auction, then there would have been no reason for Congress to expressly incorporate the OET-69 methodology.

Similarly, a statute's use of an administratively defined term without modification evinces congressional approval of the term and Congress's intent that the words have their defined meaning.[16] Here again, because Congress incorporated a specific reference to OET-69,

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*Wilander*, 498 U.S. 337, 342 (1991) ("In the absence of contrary indication, we assume that when a statute uses ... a term [of art], Congress intended it to have its established meaning"); *Morissette v. United States*, 342 U.S. 246, 263 (1952) ("[W]here Congress borrows terms of art in which are accumulated the legal tradition and meaning of centuries of practice, it presumably knows and adopts the cluster of ideas that were attached to each borrowed word in the body of learning from which it was taken and the meaning its use will convey to the judicial mind unless otherwise instructed[.]"); *Stephens v. U.S. Airways Group, Inc*., 644 F.3d 437, 440 (D.C. Cir. 2011) (similar).

[15] Our preliminary testing indicates that the *TVStudy* software is not capable of performing all of the analysis that the current OET-69 software is designed to perform, including processing applications for new channels or modifying existing licenses. Instead, *TVStudy* appears to be designed primarily to deal with nationwide runs and wholesale repacking—both activities that are specific to the incentive auction. That OET is proposing these changes in conjunction with the incentive auction is precisely what Congress sought to avoid in specifying the use of OET-69 in Section 6403(b)(2) of the Spectrum Act.

[16] *See, e.g.*, *Sebelius v. Auburn Reg'l Med. Ctr.*, 133 S. Ct. 817, 827-28 (2013) (Congress's amendment of statute without expressing "disapproval" of administratively-defined term is persuasive evidence that Congress intended to adopt agency interpretation); *Toyota Motor Mfg., Kentucky, Inc. v. Williams*, 534 U.S. 184, 193-94 (2002) ("Congress' repetition of a well-established term generally implies that Congress intended the term to be construed in accordance with pre-existing regulatory interpretations."); *Bragdon v. Abbott*, 524 U.S. 624, 645 (1998) ("When administrative and judicial interpretations have settled the meaning of an existing statutory provision, repetition of the same language in a new statute indicates, as a general matter, the intent to incorporate its administrative and judicial interpretations as well."); *CFTC v. Schor*, 478 U.S. 833, 846 (1986) ("It is well established that when Congress revisits a statute giving rise to a longstanding administrative interpretation without pertinent change, the 'congressional failure to revise or repeal the agency's interpretation is persuasive evidence that the interpretation is the one intended by Congress.'" (quoting *NLRB v. Bell Aerospace Co*., 416 U.S. 267, 275 (1974)); *FDIC v. Phila. Gear Corp*., 476 U.S. 426, 437 (1986) (when Congress reenacts "without pertinent change" a statute giving rise to a longstanding agency interpretation, Congress's "failure to revise or repeal the agency's interpretation is persuasive evidence that the interpretation is the one" Congress intended); *Lorillard v. Pons*, 434 U.S. 575, 580 (1978) ("Congress is presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it reenacts a statute without change"); *Comm'r v. Estate of Noel*, 380 U.S. 678, 682 (1965) ("We have held in many cases

Congress must be deemed to have intended use of OET-69 without modification.[17] That Congress also directed the Commission to use "all reasonable efforts" to maintain coverage area and population served as of February 22, 2012 only underscores Congress's mandate; it does not, as CEA suggests, authorize the Commission to disregard its obligation to maintain OET-69 as it existed and was implemented on February 22, 2012.[18] The statute is unambiguous in its command that the Commission employ the existing OET-69 methodology, and any contrary interpretation would not receive *Chevron* deference.[19]

Despite Congress's unambiguous directive, the *Public Notice* announcing *TVStudy* introduces—for the first time and outside the strictures of the formal rulemaking process—a series of changes that Congress did not intend the Commission to consider and which fundamentally alter the OET-69 methodology.[20] That OET has seen fit to call the new software *TVStudy*, rather than referring to it as "OET-69," betrays OET's intent to replace the fully functional OET-69 methodology with an entirely new software package with features designed specifically for use in the incentive auction. But even if OET's proposals could somehow be viewed as not modifying the "methodology" of OET-69, they are unlawful because they do not preserve broadcast licensees' coverage areas and populations served as predicted on February 22,

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that such a longstanding administrative interpretation, applying to a substantially re-enacted statute, is deemed to have received congressional approval and has the effect of law.").

17 *See, e.g., Shays v. Fed. Election Comm'n*, 414 F.3d 76, 106 (D.C. Cir. 2005) (agency's use of term in prior advisory rulings "reinforce[d] [the court's] sense that Congress anticipated a similarly broad construction of the term here"); *Prometheus Radio Project v. FCC*, 373 F.3d 372, 396-97 (3d Cir. 2004) ("We assume that when Congress uses an administratively defined term, it intended its words to have the defined meaning."); *EEOC v. Aramark Corp.*, 208 F.3d 266, 271 (D.C. Cir. 2000) (where a term has a settled meaning, "'repetition of the same language in a new statute indicates, as a general matter, the intent to incorporate its . . . [existing] interpretations'" (quoting *Bragdon*, 524 U.S. at 645)).

18 CEA Comment 4.

19 *See Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

20 *See Motor Vehicle Mfrs. Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) ("Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.").

2012—predictions which necessarily depend on calculations pursuant to OET-69, as it existed on that date.[21] We explore each proposal below.

### A. The Proposed Changes For Addressing Error Codes Violate The Spectrum Act.

OET's proposal to change the prevailing default assumption for "flagged" error cells—from an assumption of coverage to either ignoring "flagged" error cells or assuming interference—constitutes a dramatic change in methodology that must be abandoned for four reasons. First, it constitutes a clear violation of Section 6403(b)'s command to use the "methodology described in OET-69." The coverage assumption is an integral part of the OET-69 methodology and—as OET observes—is a feature that distinguishes OET-69 from other OET bulletins.[22] Indeed, the fact that the Commission proposes changes to the coverage assumption in implementing *other* OET bulletins[23] bolsters NAB's position that Congress's specific reference to OET-69 should be interpreted to require the use of inputs and assumptions *specific to OET-69.* Had Congress intended that the Commission change the default assumption for "flagged" cells, it could have identified OET Bulletin 72 or 73 in the Spectrum Act. That Congress did not is reason alone to abstain from adopting this change.[24]

Second, the Commission has previously characterized a change of this nature as a change in "methodology." In *Review of the Commission's Rules and Policies Reflecting the Conversion to Digital Television*, the Commission observed that an "assumption of service was appropriate" and that "reconciling calculations using *a new methodology* with the table calculations based on different methodology is difficult and likely to result in uncertainty in the results and contested

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[21] *Id*.
[22] Public Notice 5-6.
[23] *Id.* at 6.
[24] *See* OET Bulletin No. 73, "The ILLR Computer Program for Predicting Digital Television Signal Strengths at Individual Locations," Nov. 23, 2010, and OET Bulletin No. 72, "The ILLR Computer Program," July 2, 2002, *at* http://www.fcc.gov/encyclopedia/oet-bulletings-line.

decisions."[25] OET cannot contradict the Commission's characterization of this change, and the Commission cannot alter its interpretation purely out of expediency.[26] Changes to the OET-69 methodology are forbidden insofar as they concern the incentive auction.

Third, NAB's testing using the *TVStudy* software indicates that a change in the assumption from service to interference would reduce the predicted coverage and population served for a staggering 97.3% of all stations.[27] Approximately 48% of the stations—nearly *half*—would experience a reduction in predicted population served of more than 30%.[28] NAB's testing has shown, moreover, that changing the assumption from service to ignoring the "flagged" error cells would reduce the predicted coverage area and population served for approximately 87% of all stations.[29] Employing these substantially altered calculations in the incentive auction, as OET proposes, would irreparably taint the process and alter the relationships among participants in unpredictable and unfair ways. These dramatic changes obviously do not comply with Section 6403(b)(2)'s requirement that the Commission preserve coverage areas and populations served for each broadcast licensee, as calculated on the date of the Spectrum Act's enactment, February 22, 2012.

Finally, OET is precluded from making this change in conjunction with the incentive auction because a decision of this magnitude can only be made by the Commission, following formal notice and comment. It is notable that the FCC has previously considered and rejected a

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[25] 16 FCC Rcd 5946, 5972 (2001) (emphasis added).

[26] *See Christopher v. SmithKline Beecham Corp.*, 132 S. Ct. 2156, 2166 (2012) (deference to agency action is unwarranted "when there is reason to suspect that the agency's interpretation 'does not reflect the agency's fair and considered judgment on the matter in question'" as where "the agency's interpretation conflicts with a prior interpretation").

[27] Tawil Decl. ¶ 12.

[28] *Id*.

[29] *Id.* ¶ 13.

fixed reduction in service area for all stations.[30] Yet the proposed changes to OET-69 would have just that effect. To smuggle in such a change at the staff level, and in the midst of one of the most complicated proceedings in recent years, not only defies congressional intent but is the very essence of unreasoned decisionmaking.

### B. Use Of One-Arcsecond Terrain Data Instead Of Three-Arcsecond Terrain Data Violates The Spectrum Act.

OET proposes to evaluate terrain and land elevations using one-arcsecond terrain data instead of three-arcsecond data (roughly every 100 feet at mid-latitudes)[31] on the grounds that the "three-arcsecond terrain database is no longer being revised, maintained, or supported by the U.S. Geological Survey."[32] This change is inappropriate at this time for three reasons.

First, OET Bulletin 69 expressly requires the use of three-arcsecond terrain data.[33] Accordingly, three-arcsecond data is an integral part of the OET-69 methodology, which cannot be changed for purposes of the incentive auction under Section 6403(b)(2) of the Spectrum Act. Indeed, the Commission has repeatedly characterized the use of three-arcsecond data as part of its "methodology."[34]

Second, NAB's preliminary testing indicates that the switch from three- to one-arcsecond terrain data would result in predicted losses in population served for 1,896 of 2,228 stations, or 85.1% of all stations.[35] Here, as with other changes proposed by OET, the massive disparity in

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30 *See* Review of Commission's Rules, 16 FCC Rcd at 5972; Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, 13 FCC Rcd 7418, 7489 (1998).

31 *See* Report and Order and Further Notice of Proposed Rulemaking, In the Matter of Establishment of a Model for Predicting Digital Broadcast Television Field Strength Received at Individual Locations, 25 FCC Rcd 16426, 16462 (2005).

32 Public Notice 4.

33 *E.g.*, OET Bulletin No. 69, at 6 ("The FCC computer program is linked to a terrain elevation database with values every 3 arc-seconds of latitude and longitude.").

34 *E.g.*, *In re County of Los Angeles, California*, 23 FCC Rcd 18389, 18401 (2008); *In re Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, 23 FCC Rcd 4220, 4312 (2008); *In re State of New York*, 22 FCC Rcd 22195, 22198 (2007).

35 Tawil Decl. ¶ 14. Testing suggests that 11.3% of stations would gain population and 3.6% would not be affected. *Id.*

covered areas and population simply cannot be squared with Congress's directive to preserve broadcast licensees' service populations, as calculated using the version of OET-69 in effect on February 22, 2012.

Third, the switch to one-arcsecond data is unnecessary at this time. Existing broadcast licensees have measured their coverage areas and populations served using the existing DTV Table of Allotments—based on three-arcsecond data—and the Commission continues to permit the use of three-arcsecond data in processing modifications to existing licensees or for new license applicants.

### C. Use Of Antenna Beam Tilt Values In The CDBS Record Rather Than Standard Elevation Pattern Violates The Spectrum Act.

OET's proposal to change the default for antenna beam tilt from a standard value to the values specified in the FCC's broadcast station database ("CDBS") for each station also violates Section 6403(b)(2).[36] Like the mandated use of three-arcsecond terrain data, use of a standard beam tilt to determine transmitting antenna patterns is expressly required in OET Bulletin 69.[37] Not only would this alter OET-69's "methodology," but it would reduce the predicted population served for 7.6% of stations and increase the predicted population served for 21.2% of stations.[38]

### D. Use Of 2010 Census Data Violates The Spectrum Act And Commission Rules.

OET's proposal to use 2010 Census data for the incentive auction likewise constitutes a change in methodology and must be abandoned for three reasons. First, though the use of 2000 Census data is not specified in OET Bulletin 69, Section 73.616(e)(1) of the rules requires broadcasters to use 2000 Census data as part of the OET-69 methodology.[39] The full

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[36] Public Notice 4.
[37] OET Bulletin No. 69, at 13 & Table 8.
[38] Tawil Decl. ¶ 15.
[39] 47 C.F.R. § 73.616(e)(1) (providing in relevant part that "[f]or evaluating compliance with the requirements of this paragraph, interference to populations served is to be predicted based on the 2000 census population data

Commission adopted section 73.616(e)(1) on January 30, 2008, after several weeks of formal notice and comment procedures.[40] That rule was therefore incorporated into the OET-69 methodology four years before Congress's enactment of Section 6403(b)(2).[41] Congress is thus presumed to have intended the use of 2000 Census data as part of the OET-69 methodology. Moreover, the Commission itself has observed that a change in Census data constitutes a change to OET-69's methodology.[42]

Second, NAB's testing indicates that 14% of broadcast licensees would lose population using 2010 Census data.[43] These changes are contrary to the Commission's statutory obligation to preserve "population served" as it is calculated using the version of OET-69 in effect as of February 22, 2012. While OET may believe that its proposed change better reflects the realities of population growth, Congress sought to reduce coercive pressure on stations to give up their licenses by adopting a fixed benchmark—OET-69 as of February 22, 2012—as a safeguard for broadcasters choosing not to participate in the incentive auction. In making that policy determination, Congress clearly favored predictability and industry experience over other considerations, and OET may not countermand Congress's decision.[44]

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and otherwise according to the procedure set forth in OET Bulletin No. 69: 'Longley–Rice Methodology for Evaluating TV Coverage and Interference' (February 6, 2004) (incorporated by reference, see § 73.8000), including population served within service areas determined in accordance with § 73.622(e), consideration of whether F(50,10) undesired signals will exceed the following desired-to-undesired (D/U) signal ratios, assumed use of a directional receiving antenna, and use of the terrain dependent Longley–Rice point-to-point propagation model").

40 *See* Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, 23 FCC Rcd 2994, 3067 (2007) (changing census data used in OET-69) ("Third Periodic Review").

41 *See id*.

42 *Id.* (describing the adoption of 2000 Census data as "revis[ing] the OET 69 interference analysis methodology"); *accord* In the Matter of Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, 13 FCC Rcd 19112, 1998 WL 917514, at * 22 (1998) (describing the nonuse of census data as among the "major modifications" to petitioners' "methodology").

43 Tawil Decl. ¶ 11.

44 *See Cmty. for Creative Non-Violence v. Reid*, 490 U.S. 730, 749-50 (1989) (rejecting interpretation that would have "thwart[ed] Congress' goal of ensuring predictability through advance planning").

Third, as explained in greater detail below, *infra* Part III, Section 73.616 can only be modified by the full Commission, following notice and comment. OET lacks the authority to usurp Section 73.616's application to OET-69 by requiring the use of 2010 Census data.[45]

For these reasons, the proposal to employ 2010 Census data must be postponed until after the incentive auction proceedings and a formal notice and comment by the Commission.

### E. The Remaining Changes Violate The Spectrum Act.

OET's remaining changes must be rejected because they modify the OET-69 methodology and substantially alter broadcast licensees' coverage areas and populations served. For example, OET's proposal to use antenna height above mean sea level instead of height above ground would result in a predicted loss of population served for 12.2% of stations and a predicted increase in population served for 22.1% of stations.[46]

Likewise, OET's proposal to use locations to a precision of 0.0000001 degrees of latitude and longitude, rather than existing location data, which rounds these values to the nearest second, would decrease predicted population served for 37.3% of stations and increase predicted population served for 38.1%.[47] Finally, OET's proposal to use a uniform grid calculation would result in a predicted population loss for 42.6% of stations.[48] Each of these changes violates Section 6403(b)(2).

## II. The Proposed Changes Fail To Preserve Existing Coverage Area And Population Served.

As detailed above, the changes proposed in OET's *Public Notice* contravene the Spectrum Act by threatening to substantially alter predictions relating to broadcast licensees' coverage areas and populations served. These concerns are not merely academic but would

[45] Agencies cannot simply disregard a rule that is still on the books. *See FCC v. Fox Television Stations, Inc*., 556 U.S. 502, 514 (2009).
[46] Tawil Decl. ¶ 16.
[47] *Id.* ¶ 17.
[48] *Id.* ¶ 18.

cause adverse consequences for many television stations. Indeed, if the methodology for predicting service areas and populations served changes just before the incentive auction, numerous stations choosing not to participate will end up with substantially smaller coverage areas and audiences than they expected once the repacking process is completed.

NAB's preliminary analysis of the new *TVStudy* software suggests that it will effectively redefine and seriously reduce the coverage for a significant number of television stations. Specifically, if all of the recommended default settings in *TVStudy* are applied, approximately 61% of all stations would lose area- and population-coverage when compared to the predictive calculations generated by the version of OET-69 in effect on February 22, 2012.[49] That is particularly so with respect to the new software's treatment of antenna beam tilt, the use of one-arcsecond terrain date, and the treatment of internal (Longley-Rice) warnings—parameters that, if changed, would seriously affect licensees' population and service areas.[50] For example, station KMAX-TV in Sacramento, California is predicted to serve 6,445,861 viewers using the current OET-69 methodology. However, using the *TVStudy* software with its attendant changes to OET-69,[51] KMAX-TV's predicted population coverage was reduced to 5,471,358—a 15% loss of population, representing nearly a million viewers.[52]

To further illustrate the effects of OET's proposed change in the treatment of internal (Longley-Rice) warning flags, we selected station KMTP-TV in Sacramento, California, which is predicted to serve 6,665,289 viewers under the existing Longley-Rice warning flag settings.

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[49] *Id.* ¶ 10.

[50] The use of one-arcsecond terrain data instead of the three-arcsecond terrain data specified in OET Bulletin 69 reduces population coverage for 85% of full power and Class A stations licensed in the U.S. Tawil Decl. ¶ 14. Moreover, changing the treatment of the internal (Longley-Rice) warnings flag from coverage to interference will affect 97.3% of all full power and Class A stations. *Id.* ¶ 12.

[51] The default option in the *TVStudy* software was used to conduct this run. The default option included 2010 census data and one-arcsecond terrain data, but did not change the treatment of the internal Longley-Rice warnings flag.

[52] Tawil Decl. ¶ 10.

Using the *TVStudy* software and changing the flag warning to interference, however, the predicted population coverage was reduced to 4,233,630 viewers, a dramatic loss of 2,431,659 predicted viewers, or 36.4% of the total audience.[53] We conducted a similar test for station KWPX-TV in Bellevue Washington: By changing the treatment of flag warnings as above, KWPX-TV is predicted to lose 34% of its service population, from 4,133,310 to 2,727,771 viewers.[54]

The *TVStudy* software also departs from the OET-69 methodology with regard to the evaluation of service and interference, and with regard to identification of interfering stations—all of which are limited to full power analog and digital television stations under the existing methodology. Indeed, all references to television stations contained in OET Bulletin 69 are limited specifically to full power analog and digital television stations. For example, the Bulletin cites to the conventional Grade B contour defined in Section 73.683 for analog stations and cites to Section 73.622 for calculating the effective radiated power of DTV stations. The OET-69 methodology for evaluating television coverage and interference of DTV stations does not include, and has never included, low power television and TV translator stations. Low power and television translators are authorized and licensed under Subpart G of Part 74 of the rules; OET Bulletin 69 contains no references to Part 74 of the rules or to any stations licensed under this rule part. Nevertheless, the *TVStudy* software includes these stations in its evaluation of service and interference of DTV stations, rather than using the OET-69 methodology that excludes consideration of such stations. Including these stations will lead to more interference with broadcast signals, less coverage for existing broadcast licensees, and less service for the viewing public. As interference levels increase, the viewing public loses access to its existing

[53] *Id.* ¶ 12.
[54] *Id.*

menu of broadcast stations. These effects are plainly contrary to congressional intent and the express terms of the Spectrum Act.

These changes threaten to cause substantial harm to television stations in conjunction with the Commission's incentive auction. As detailed above, the proposed changes to the OET-69 methodology generate dramatically different predictions for population served, coverage area, and interference levels for a large number of stations. Not only do they reduce certainty for broadcast licensees considering whether to participate in the auction, but they also are likely to harm broadcasters bidding in the reverse auction and those licensees that forego participation in the reverse auction and are subject to repacking based on reduced coverage and greater interference. The Incentive Auction NPRM suggests one way *TVStudy* might adversely affect broadcasters bidding in the reverse auction:

> For example, some stations have larger coverage areas and serve greater populations than others, affecting both their economic value to broadcasters and the effect of repacking them. Broadcast stations' bids in the reverse auction could be assigned a score incorporating such factors. Bids from stations that would make the repacking more difficult because they would block more potential channel assignments to other stations could receive a lower score, for example, making them more likely to have their bids accepted and, equivalently, less likely to be assigned a channel in their pre-auction band. The score could also be designed to reflect the fact that the value of a broadcasting license depends in part on its population served. For a bid to move to VHF, the score may also account for the scarcity of VHF spectrum in the station's broadcast area. Selecting bids and paying winning bidders in relation to their population served or other indicators of value may reduce the cost of clearing broadcast television spectrum.[55]

Thus, where the applied methodology shows that a particular station has more interference or serves a smaller population or coverage area, those predictions could prejudice broadcasters

[55] Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, 77 Fed. Reg. 69934, 69940 (Nov. 21, 2012). The reverse auction is the process by which "broadcast television licensees submit bids to voluntarily relinquish spectrum usage rights in exchange for payments." *Id.* at 69969.

bidding in the reverse auction process and alter the economic value of participating stations. These outcomes are plainly contrary to the Spectrum Act's directive that the incentive auction be conducted in a manner that preserves "the coverage area and population served," as calculated using OET-69 as of February 22, 2012.[56]

Of course, the Commission has *not yet* finalized the incentive auction's design, so broadcasters are left to guess how changed predictions will operate in the auction process. This uncertainty is imposing significant costs and irreparable harms on broadcasters at this time: Not knowing how a licensee's coverage area and population served will be calculated, much less how those calculations will be valued in the incentive auction, is a significant harm to all members of the industry. Such uncertainty is squarely at odds with Congress's clear aim of assuring predictability and simplicity as an assurance to broadcasters considering whether to participate in the incentive auction.

It is no answer that broadcast licensees are nominally not *required* to participate in the incentive auction. Section 6403(b)(2) draws no distinction between participants and non-participants when it directs the Commission to preserve broadcast licensees' coverage areas and populations served. Moreover, those stations that decline to participate in the auction will be subject to the Commission's repacking process and may very well see their viewing populations, coverage areas, and interference levels materially change due to calculations made using *TVStudy*. This prospect raises serious concerns about the "voluntary" nature of the auction for participants and non-participants alike.[57] It also raises the threat of serious harm to viewers who will likely find themselves deprived of access to certain television stations.

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[56] Spectrum Act, § 6403(b)(2).

[57] In granting authority for the FCC to conduct incentive auctions, Congress made clear the voluntary nature of such auctions. *See* Spectrum Act, § 6402 ("the Commission may encourage a licensee to relinquish voluntarily some or all of its licensed spectrum usage rights" by sharing a portion of the auction proceeds with the

Ultimately, the ill-timed introduction of *TVStudy*, however well-intended, only serves to erode the transparency and confidence that the FCC believes will make the spectrum auctions successful.

## III. Even Assuming That The FCC Has Authority To Modify OET-69, The Decision Must Be Made At The Commission Level Following Formal Notice And Comment.

Even assuming that the Commission has the power to alter the OET-69 methodology, whether to adopt changes to OET-69 for purposes of the incentive auction is a decision that must be made at the Commission level. OET's attempt to change OET-69 at this time clearly violates Commission regulations and the Commission's rules of procedure for departures from longstanding precedent and changes of this magnitude.[58]

First, the duties and responsibilities delegated to OET do not include changes of the kind proposed by OET in the *Public Notice*. While the Commission has delegated to OET authority to "evaluate evolving technology for interference potential and to suggest ways to facilitate its introduction in response to Bureau initiatives," this authority is limited to providing "advi[c]e" to the Commission.[59] Likewise, because the incentive auction is a novel and unprecedented proceeding, and the Commission has never articulated its interpretation of Section 6403(b) of the Spectrum Act, this matter must be referred to the Commission for disposition.[60] This view is corroborated by Commission Rule § 0.5(c), which provides that delegations of authority to staff

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licensee). The FCC has also stressed that the broadcast incentive auction will and must be voluntary. *See* NPRM, ¶¶ 3, 25, 84; *see also* Statement of Commissioner Mignon L. Clyburn ("[A]s I have said all along, the word *voluntary* is the most important word contained in all of the pages that comprise th[e] [NPRM]."), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-12-118A5.pdf.

[58] *See MetroPCS Cal., LLC v. FCC*, 644 F.3d 410, 414 (D.C. Cir. 2011) (quoting Commission statement that "'whether to depart [] substantially from such long-standing and significant Commission precedent . . . is a complex question better suited to a more general rulemaking proceeding'").

[59] 47 C.F.R. § 0.31(a).

[60] 47 C.F.R. § 0.241.

are appropriate only "on matters which are minor or routine or settled in nature and those in which immediate action may be necessary." Neither circumstance exists here.

Second, the Commission's regulations provide that any change to OET Bulletin 69 will be published in the Federal Register. Specifically, the Commission's regulations incorporate by reference OET Bulletin 69,[61] and further state that all materials incorporated by reference are incorporated "as they exist on the date of the approval, and notice of any change in these materials will be published in the Federal Register."[62] Though this Part of the Commission's regulations addresses Radio Broadcast Services, the Commission's acknowledgment that changes to OET Bulletin 69 should be made via formal, Commission-level rulemaking proceedings applies with equal force in this context.

Third, the Commission has previously made similar changes at the Commission rather than staff level.[63] For example, when the Commission sought to require use of 2000 Census data, it issued a Notice of Proposed Rulemaking, collected and considered comments, and adopted a formal regulation requiring use of 2000 Census data for purposes of OET-69.[64] Any move to require 2010 Census data requires the same procedures.[65] It is also notable that the Commission has previously considered and rejected the change to "flagged" cells proposed in OET's *Public Notice* on two separate occasions.[66] The Commission's repeated rejection of this proposal

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61 47 C.F.R. § 73.8000(d)(1).

62 47 C.F.R. § 73.8000(a).

63 *See, e.g.*, Third Periodic Review, 23 FCC Rcd at 3067 (changing census data used in OET-69).

64 47 C.F.R. § 73.616 ("For evaluating compliance with the requirements of this paragraph, interference to populations served is to be predicted based on the 2000 census population data and otherwise according to the procedure set forth in OET Bulletin No. 69.").

65 *See* 47 C.F.R. § 0.5(c) (noting that Commission can delegate authority to its staff to act on matters which are "minor or routine or settled in nature" and that actions taken under delegated authority "are subject to review by the Commission"); *id.* § 0.241(a)(1) (providing that "[n]otices of proposed rulemaking and of inquiry and final orders in rulemaking proceeding, inquiry proceedings and non-editorial orders making changes" "shall be referred to the Commission en banc for disposition").

66 *See* Review of Commission's Rules, 16 FCC Rcd at 5972; Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, 13 FCC Rcd 7418, 7489 (1998).

strongly suggests that OET does not have authority to adopt it absent formal Commission approval.

Fourth, under the Government in the Sunshine Act, the FCC is required to conduct any deliberations on a revision of the OET-69 methodology in a public manner.[67] While OET Bulletin 69 was originally promulgated by OET staff, it has since been incorporated into FCC rules and a congressional enactment. Given the high-profile nature of the incentive auction and the high-stakes consequences of its execution, it makes sense to explore such changes, if at all, in the sunlight of the full Commission, where it can be fully vetted by the Commissioners and the public.

Assuming, *arguendo*, that the Commission has authority to use *TVStudy* instead of the existing OET-69 methodology when conducting the incentive auction (a point NAB does not concede), the proper course of action would have been for the Commission to include *TVStudy* as a component of its NPRM for the incentive auction and to extend the comment period in those proceedings. Instead, OET has purported to ride the coattails of the Commission's NPRM by permitting commenters to use either the docket number for *Public Notice* 13-138 or the Incentive Auction NPRM. The timing of OET's *Public Notice* calls into question both the adequacy of the comment period for *TVStudy* and the legality of the rulemaking notice and comment proceedings for the incentive auction. OET's notice and request for comments on *TVStudy* were issued ten days after the deadline for comments on the overall incentive auction plan. The deadline for comments in response to the *Public Notice* is two weeks after reply comments are due in the incentive auction proceeding. The failure to incorporate comments on a crucial element of the incentive auction in the Incentive Auction Rulemaking substantially compromises the ability of commenters to meaningfully comment on the incentive auction proposal.

[67] *See* 5 U.S.C. § 552b.

## IV. The OET's Proposed Action Would Be Arbitrary And Capricious.

All agencies, including the Commission, must engage in reasoned decisionmaking,[68] and must, in particular, provide reasoned explanations for changes in policy.[69] Section 6403(b)(2) directs the Commission to conduct an incentive auction in a manner that preserves coverage as calculated by the OET-69 methodology on February 22, 2012. OET's implementation of the proposed *TVStudy* software would have the opposite effect and thus violates the Administrative Procedure Act.

First, *TVStudy* would result in widespread, net losses in predicted area and population served by broadcast licensees across the industry. NAB's testing of the proposed changes to "Error Code 3," for example, indicates that they will adversely affect 87% to 97.3% of stations.[70] By changing the default from "service" to "interference," or computing coverage area and population based on a one-arcsecond versus three-arcsecond terrain data, the broadcast industry as a whole would lose substantial coverage area and population served, contrary to the Spectrum Act's unambiguous requirements. These and other changes caused by the *TVStudy* software would in turn harm potential participants in the reverse auction and those broadcasters that forego participation in the reverse auction but are subject to channel repacking. Current

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[68] *See, e.g.*, *Kristin Brooks Hope Ctr. v. FCC*, 626 F.3d 586, 591 (D.C. Cir. 2013) (FCC failed to provide "a reasonable explanation that connects the facts found and the choice made" (internal quotation marks omitted)); *Am. Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 241 (D.C. Cir. 2008) (conclusory statements did not constitute reasoned decisionmaking); *Verizon Tel. Cos. v. FCC*, 374 F.3d 1229, 1245 (D.C. Cir. 2004) (omissions rendered Commission's decision "arbitrary and capricious, not the product of reasoned decisionmaking"); *U.S. Telecom Ass'n v. FCC*, 227 F.3d 450, 460 (D.C. Cir. 2000) (finding that Commission made *assertions* but did not explain the basis for its conclusions); *Bell Atl. Tel. Cos. v. FCC*, 206 F.3d 1, 3 (D.C. Cir. 2000) (vacating and remanding FCC ruling "for want of reasoned decisionmaking"); *U.S. Tel. Ass'n v. FCC*, 188 F.3d 521 (D.C. Cir. 1999) (holding that FCC failed to give rational explanation for certain changes to methodology for limiting access charges paid by IXCs to LECs in connection with transmission of long distance calls).

[69] *See, e.g.*, *Fox Television Stations*, 556 U.S. at 515 (agency changing stance must "provide reasoned explanation of its action" and "show that there are good reasons for the new policy"). In particular, "change that does not take account of legitimate reliance on prior interpretation may be 'arbitrary, capricious [or] an abuse of discretion.'" *Smiley v. Citibank (S.D.), N.A.*, 517 U.S. 735, 742 (1996) (citations omitted).

[70] Tawil Decl. ¶¶ 12-13.

predictions about area and population served determine the value of spectrum rights—and stations—in the incentive auction. This information in turn directly affects broadcasters' decisions to participate in the auction. If broadcasters are uncertain about the value of their spectrum rights—and thus, the value of the rights they may relinquish in the reverse auction or the rights they may have after the repacking—those broadcasters will feel coerced into participating in an auction that Congress intended to be voluntary. Broadcasters faced with this dilemma will be forced to incur costs and expenses now that they would not otherwise incur under the statute as enacted.

Second, OET has made no findings, nor could it, that the OET-69 methodology is incapable of calculating population served and coverage area for purposes of the incentive auction.[71] On the contrary, our analysis indicates that OET-69 is fully capable of carrying out the tasks required for the incentive auction, and OET has identified no compelling reason, let alone a pressing need, to replace it at this time.[72] Indeed, OET offers no considered rationale for the radical changes it proposes.

Third, OET has failed to conduct any cost-benefit analysis for its proposed changes—the hallmark of arbitrary and capricious agency action. For example, OET has not attempted to explain how *TVStudy*'s supposed benefits—that it "runs much faster, provides greater accuracy in modeling and analysis, and is easier to use and more versatile"[73]—outweigh the significant costs it is imposing and will continue to impose on the industry, as described above. This omission is especially troubling given the FCC's repeatedly-expressed concern with the relative

[71] OET and CEA incorrectly contend that the incentive auction requires a database of interference status at the cell level. *See* Public Notice 1; CEA Comment 4. In fact, the existing OET-69 software is fully capable of calculating interference for purposes of the incentive auction. *See* Declaration of William R. Meintel ¶ 12 [hereinafter "Meintel Decl."]

[72] Meintel Decl. ¶ 13.

[73] Public Notice 1.

costs and benefits of its actions—including in this precise context.[74] The proposed changes to OET-69 and the attendant uncertainty would drive up costs for broadcast licensees, as they scramble to acquaint themselves with the new methodology, without any countervailing benefit.

Fourth, the suggestion by OET and CEA that *TVStudy* "provides greater accuracy" is false—several of OET's proposals would *reduce* accuracy.[75] For example, while *TVStudy* would correct an error in calculating depression angles, this change would have to be accompanied by use of accurate elevation patterns that include the impact of mechanical beam tilt to yield accurate results. If distorted horizontal plane azimuth patterns from antennas with mechanical tilt are used, additional errors will be introduced. If *TVStudy* assumed the relative field was equal at all depression angles, it would likely show coverage much closer to real world results, but could potentially allow new real interference by showing more power in elevation pattern nulls than in fact is there. Preliminary testing also suggests that adding more terrain points may actually decrease accuracy. This phenomenon requires further study but suggests that OET's proffered justifications for changing OET-69 are unfounded.

Furthermore, OET's desire for greater accuracy must be balanced against the Commission's apparent determination to conduct an incentive auction at the earliest possible time with maximum participation from broadcasters. Introducing uncertainty relative to an essential aspect of that participation—namely, the calculation of relevant service areas and populations—could cause the auction to be delayed and could coerce stations to give up their licenses and participate in the auction, contrary to Congressional intent. Significantly, Congress itself specified use of OET-69 without indicating any concern about possible inaccuracies. In

[74] *E.g.*, Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, 77 Fed. Reg. 69934, 69946 (Nov. 21, 2012) ("For each of the options, the Incentive Auctions NPRM seeks comment on the costs and benefits, including quantitative estimates, of each repacking option in comparison to the others.").

[75] Public Notice 1; CEA Comment 5.

any event, both OET-69 and *TVStudy* are methodologies for predicting signal coverage; neither will guarantee absolute precision.

Fifth, OET's *Public Notice* has not provided the industry with sufficient time to meaningfully evaluate the new software and cannot satisfy the Commission's obligation to hold a formal notice and comment rulemaking to fully explore and assess the effects of the proposed changes. OET has provided only 45 days for commenters to evaluate and troubleshoot the *TVStudy* software on a variety of parameters, despite the fact that errors, unexpected behaviors, or anomalous results produced in running the software may take months to identify. Industry members are entitled to test and understand this new software and its limitations before they make costly decisions with respect to the incentive auction that will be binding on them for years to come. At a minimum, a formal notice and comment period is required. The Commission has recognized this need in other contexts. As noted above, Section 73.8000 incorporates OET Bulletin 69 by reference and states that notice of any change shall be by formal APA-mandated procedures.[76] This requirement reflects the Commission's recognition that OET Bulletin 69 and its implementing software are a critical methodology on which industry participants rely. Staff-level changes to that methodology would upset settled expectations and violate Commission practice.

## CONCLUSION

The incentive auction is enormously complicated and already posing unprecedented and difficult technical challenges. There is simply no reason to compound these difficulties by simultaneously overhauling OET-69, which Congress and the FCC previously have stated is the controlling standard.

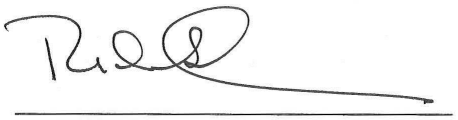
[76] 47 C.F.R. § 73.8000.

Introducing changes to OET-69 now creates substantial uncertainty for broadcasters and the wireless industry. Whereas prior to the *Public Notice*, broadcasters understood how their coverage area and population served would be calculated in the incentive auction, the modifications proposed in the *Public Notice* mean that no broadcaster will know what it would be auctioning or preserving if it opts to participate or refrain from participating in the auction. Likewise, broadcasters that forego participation in the reverse auction stand to lose population served and coverage area in the repacking process. Indeed, the changes introduced in *TVStudy* could yield a greater protected area for some and less for others. It creates instability in the process that can only serve to undermine the auction that NAB and other industry players are working extremely hard to make work as Congress intended.

NAB does not oppose an in-depth examination geared towards improving coverage and interference prediction methodologies, such as those in OET-69. NAB believes strongly, however, that such a review must take place apart from and preferably after the incentive auction process, and as part of a notice-and-comment rulemaking. A proper review of OET-69 requires time-intensive analysis of dozens of difficult engineering issues and their discussion and debate. This proceeding is not an appropriate forum because the package of changes contemplated is highly unlikely to yield any appreciable benefit for stakeholders in the auction. Rather, as the Commission has previously found in addressing this area, they will result in uncertainty and disruption.

For the reasons stated above, NAB respectfully requests that OET and the Commission suspend implementation of the modified OET-69 software until after the incentive auction of broadcast spectrum.

Respectfully submitted,



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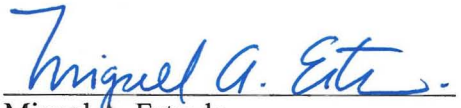

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**DECLARATION OF VICTOR TAWIL**

I, Victor Tawil, hereby declare under penalty of perjury that:

1. I am Senior Vice President of Technology at the National Association of Broadcasters ("NAB").

2. I have been a senior vice president at NAB since June 2011.

3. Prior to joining NAB, I was senior vice president at the Association for Maximum Service Television ("MSTV") where I was cha6rged with providing technology and telecommunication policy guidance and support to MSTV members. I served as the chairman of the Digital Television Station Project (WHD-TV), sponsored by the television and consumer electronics manufacturing industries, and as a member of the Board of Directors of the Advanced Television Systems Committee.

4. Prior to joining MSTV in 1988, I worked for the Federal Communications Commission ("FCC") for 14 years. I held various positions in a number of bureaus and the Office of Science and Technology, specializing in the fields of spectrum management, tropospheric propagation and system engineering.

5. I have worked extensively in the areas of broadcasting, satellite, wireless communications and new communication technologies.

6. I hold an MSE in Electrical Engineering from the University of Rochester, and a BSE from New York University. I am a member of the International Union of Radio Scientists, the Institute of Electrical and Electronic Engineers, the Society of Motion Picture and Television Engineers, and Tau Beta Pi.

7. In response to the Office of Engineering and Technology's ("OET") Public Notice DA 13-138 ("*Public Notice*") and its solicitation of comments, I have analyzed 13

nationwide runs of OET's proposed *TVStudy* software using the CDBS database associated with the software.[*] Using the same CDBS database, I also analyzed runs of the OET-69 software currently used by the FCC's Media Bureau. I conducted these analyses to assess the effects of OET's proposed changes to the methodology for predicting coverage areas and population served for existing broadcast licensees.

8. My analyses were based on nationwide runs that evaluated the effect of *TVStudy* on predicted coverage areas and populations served for all existing broadcast full power and Class A stations. I randomly selected an assortment of existing broadcast licensees to illustrate the impact of the *TVStudy* software, as compared to the existing OET-69 methodology.

9. My evaluation focused on determining the effect of each individual change identified in the OET′s *Public Notice* on the predicted coverage area and population served for all existing full power and Class A stations. I used the *TVStudy* software and compared the results of each individual change to the OET-69 methodology (while keeping all other parameter settings unchanged) against the unchanged OET-69 methodology. In addition, using the same *TVStudy* software, I analyzed the cumulative effect of these changes, again comparing them to the unchanged OET-69 methodology.

10. My analysis of the *TVStudy* software suggests that it will redefine more than 99.9% of the coverage area and population served and substantially reduce predicted coverage for a large number of television stations. Specifically, test results indicate that approximately 61% of all full power and Class A stations will lose predicted coverage area and population served when all of the proposed changes set forth in *TVStudy* are applied. For example, test runs showed that station KMAX-TV in Sacramento, California, is predicted to serve 6,445,861

[*] The software was downloaded and implemented on an iMac machine by du Triel, Lundin & Rackley, Inc., an engineering consultant hired by NAB. The OET-69 run was conducted on a Sun workstation by Meintel, Sgrignoli, & Wallace, an engineering consultant also hired by NAB.

viewers using the current OET-69 methodology. Using the *TVStudy* software, however, KMAX-TV's predicted population coverage is reduced to 5,471,358—a 15% loss of population representing nearly a million viewers.

11. I also examined the effect of OET's proposed use of 2010 Census data. My testing indicates that when 2010 Census data is used, 14% of broadcast licensees experience a reduction in predicted population served, while predicted population served increases for 86% of licensees.

12. As noted, I also tested each of *TVStudy*'s parameter changes individually. Trials adopting OET's proposed change in the treatment of "flagged" cells—from assuming service to assuming interference—reduced the predicted coverage areas and population served for 97.3% of existing full power and Class A television stations. Approximately 48% of these stations will experience predicted reductions in population served in excess of 30%. For example, station KMTP-TV in Sacramento, California, is calculated to serve 6,665,289 viewers using the existing OET-69 methodology's warning flag settings. Using the *TVStudy* software, however, the population coverage was reduced to 4,233,630 viewers—a predicted loss of 2,431,659 viewers, or 36.4% of the total audience. I conducted a similar test for station KWPX-TV in Bellevue Washington: By changing the treatment of flag warnings as described above, KWPX-TV is predicted to lose 34% of its service population, from 4,133,310 to 2,727,771 viewers.

13. I conducted additional tests to assess OET's proposal to disregard "flagged" cells altogether. The results indicated that this change will cause reductions in the predicted coverage area and population served for approximately 87% of existing stations.

14. I ran several tests to evaluate OET's proposed change from the use of three-arcsecond terrain data to the use of one-arcsecond terrain data. The results showed that a change

to one-arcsecond data will result in reductions in predicted population served for 1,896 of 2,228 full power and Class A stations, or 85% of the total. Conversely, 11.3% of stations will gain population, and only 3.6% of existing broadcast licensees will experience no change.

15. I also conducted tests to evaluate OET's proposed adoption of CDBS values for antenna beam tilt. The results showed that the use of CDBS values in lieu of a standard elevation pattern will reduce predicted population numbers for 7.6% of television stations. Conversely, 21.2% of stations will experience a predicted increase in population served.

16. I conducted several tests to evaluate OET's proposal to use antenna height above mean sea level instead of antenna height above ground. This change will result in predicted losses in population served for 12.2% of stations and a predicted increase in population served for 22.1% of stations.

17. My testing of OET's proposal to use locations to a precision of 0.0000001 degrees of latitude and longitude, rather than existing location data, indicates that this change will decrease the predicted populations served for 37.3% of stations and increase the predicted populations served for 38.1%.

18. My testing of OET's proposal to use a uniform grid calculation indicated that it will result in a predicted population loss for 42.6% of stations.

Executed: March 21, 2013

Victor Tawil

Meintel, Sgrignoli, & Wallace

**DECLARATION OF WILLIAM R. MEINTEL**

I, William R. Meintel, hereby declare under penalty of perjury that:

1. I am a partner in the consulting firm of Meintel, Sgrignoli, and Wallace, LLC.

2. I hold a degree in electrical engineering and have over 40 years of experience in the communications field.

3. After obtaining my degree, I was employed by the Federal Communications Commission ("FCC"), first as a field engineer and then in the Mass Media Bureau's Policy and Rules Division.

4. Under contract with the Federal Communications Commission ("FCC"), I developed the OET-69 software used by the FCC's Media Bureau for license application processing. The software that I developed was used by the FCC to perform studies needed to develop the digital television ("DTV") allotment plan at the end of the transition from analog to digital.

5. In addition to the software I developed for the FCC, I also provided the OET-69-based software utilized by most of the engineering consulting community to prepare FCC license applications. I am therefore very familiar with the use of OET-69 and its implementing software by the broadcast industry.

6. I conducted the nationwide auction baseline study for the National Association of Broadcasters ("NAB") and prepared a spreadsheet in an easily readable format for analysis.

7. The software that I used to perform this study employs the same methodology and databases as the OET-69 software used by the FCC's Media Bureau for application processing.

8. The studies were run on a Sun Microsystems computer that utilizes a SPARC processor and the Solaris operating system. This is the same configuration as the computer used by the FCC's Media Bureau.

9. The station database used for these specific studies was provided by the NAB and contained the licensed station records that appeared in the FCC's database on February 22, 2012.

10. In conducting the trial run, I utilized default cell sizes of 2-km for full power stations and 1-km for Class A stations.

11. The spreadsheet summary of the baseline study is in the same format as the csv file produced by the FCC's *TVStudy* software and contains the data extracted from the OET-69 software output files.

12. The analysis that I performed demonstrates that OET Bulletin No. 69 and the implementing software that presently exists, and that existed on February 22, 2012, are fully capable of generating coverage and interference predictions for purposes of the incentive auction, absent any of the modifications included in the *TVStudy* software.

13. These studies further demonstrate that there is no reason that any of the changes in the OET's *Public Notice* are necessary at this time.

Executed: March 20, 2013

_/s/ William R. Meintel_____
William R. Meintel
Partner Meintel, Sgrignoli & Wallace, LLC

ENGINEERING STATEMENT
IN SUPPORT OF COMMENTS ON UPDATED OET-69 SOFTWARE
NATIONAL ASSOCIATION OF BROADCASTERS
WASHINGTON, D.C.

This Engineering Statement was prepared on behalf of the National Association of Broadcasters in support of Comments on the new Federal Communications Commission (FCC) Office of Engineering and Technology Bulletin No. 69 (OET-69) software, called *TVStudy*. This office was retained by the National Association of Broadcasters to execute a series of software runs using the new FCC *TVStudy* software.

The *TVStudy* software was downloaded from the FCC according to the instructions outlined in the FCC Public Notice entitled "Office of Engineering and Technology Releases and Seeks Comment on Updated OET-69 Software," Released on February 4, 2013 (DA 13-138).* The *TVStudy* software was installed on an Apple iMac computer system running under an Intel i7 processor with the latest OS X operating system (OS Version 10.8.2).

*TVStudy* runs were conducted using a variety of soft switch options available in the software. An extract of the FCC supplied TV engineering database using licensed U.S. records was employed in the studies. The study run results were compiled in a Microsoft Excel spreadsheet form and delivered to the National Association of Broadcasters for analysis.

* See http://data.fcc.gov/download/incentive-auctions/OET-69/

I certify that this statement was prepared by me and that it is true and correct to the best of my knowledge and belief.

Louis R. du Treil, Jr., P.E.
FL Registration No. 46909

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March 19, 2013