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

In the Matter of	)	
	)	
Establishment of a Model for Predicting	)	ET Docket No. 10-152
Broadcast Television Field Strength	)	
Received at Individual Locations	)	ET Docket No. 06-94
	)	
Measurement Standards for Digital	)	
Television Signals Pursuant to the	)	
Satellite Home Viewer Extension and	)	
Reauthorization Act of 2004	)	

REPLY COMMENTS OF THE BROADCASTER ASSOCIATIONS

NATIONAL ASSOCIATION OF BROADCASTERS

ABC TELEVISION AFFILIATES ASSOCIATION

CBS TELEVISION NETWORK AFFILIATES ASSOCIATION

FBC TELEVISION AFFILIATES ASSOCIATION

NBC TELEVISION AFFILIATES

ASSOCIATION FOR MAXIMUM SERVICE TELEVISION

September 3, 2010

Table of Contents

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The National Association of Broadcasters, the ABC Television Affiliates Association, the CBS Television Network Affiliates Association, the FBC Television Affiliates Association, the NBC Television Affiliates, and the Association for Maximum Service Television (collectively, the "Broadcaster Associations")[1] hereby submit these reply comments in response to the

[1] The National Association of Broadcasters is a nonprofit trade association that advocates on behalf of free, local radio and television stations and also broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the Courts. The ABC Television Affiliates Association is a nonprofit trade association representing television stations affiliated with the ABC Television Network. The CBS Television Network Affiliates Association is a nonprofit trade association representing television stations affiliated with the CBS Television Network. The FBC Television Affiliates Association is a nonprofit trade association representing television stations affiliated with the FOX Television Network. The NBC Television Affiliates is a nonprofit trade association representing television stations affiliated with the NBC Television network. The Association of Maximum Service Television is a nonprofit trade association that advocates, on behalf of local radio and television stations and broadcast networks, before Congress, the Commission and other federal agencies, and the courts. Collectively, the four network affiliate trade associations represent approximately 750 television stations affiliated with the four major broadcast television networks.

comments of other parties regarding the Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking[2] in the above-referenced proceeding.

In this proceeding, the Commission proposes to modify its rules concerning prediction and measurement of over-the-air broadcast signals to comply with several provisions of the Satellite Television Extension and Localism Act of 2010 ("STELA").[3] As explained in our initial comments, the Broadcaster Associations agree with the Commission's proposed rules concluding that continued reliance on the outdoor antenna standard will best serve the public interest and fulfill STELA's mandate.

I. Introduction and Summary

As noted in our Initial Comments, the Broadcaster Associations support the FCC's proposal to continue to rely on an outdoor antenna to determine whether a household is "unserved" for purposes of determining whether DIRECTV and DISH may provide duplicating distant signals to that household. Simply put, the standard is not only required by a full reading of the statutory framework, it is also the only practical standard and one that serves the public interest in access to local programming. The Commission should once again reject the satellite carriers' attempts to ignore the true structure of the American broadcasting system and undermine localism for their own financial gain.

The carriers' effort to impose a different and unprecedented regime using an indoor antenna standard is based on a misreading of the language of STELA. On any plausible reading of the statute, Congress did *not* embrace the radical vision that the carriers advance. The carriers

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[2] *Notice of Proposed Rulemaking* and Further Notice of Proposed Rulemaking, ET Docket Nos. 10-152 and 06-94 (released July 28, 2010) ("NPRM").

[3] The Satellite Television Extension and Localism Act of 2010 ("STELA") § 203, Pub. L. No. 111-175, 124 Stat. 1218, 1245 (2010).

do not even mention amended Section 339(c)(3)(A), which expressly and unambiguously requires the Commission to adopt the digital ILLR model the Commission recommended to Congress in 2005.[4] That digital ILLR model, in turn, is expressly grounded in the use of rooftop antennas when necessary.

Congress was well-acquainted with the 2005 FCC study, which it requested and repeatedly cited in the Act. So if Congress intended to switch from outdoor to indoor antennas, it surely would have told the Commission to make that change in the ILLR model. But it did not. Congress' clear expression of intent in Section 339(c)(3)(A) therefore defeats any claims by the carriers about the general term "an antenna."

The copyright provisions of STELA, likewise, adopt and incorporate the 2005 study, including its endorsement of rooftop antennas. Congress' purpose in deleting the words "conventional outdoor rooftop" in the Copyright Act was to eliminate unnecessary words, given the clarity with which other provisions of the Act require the assumption of rooftop antennas.

There is nothing in STELA's amendments to the Communications Act to suggest any change from the Commission's longstanding practices. Rather, these amendments expressly require continued reliance on outdoor antennas. The Communications Act often places more restrictions on satellite carriers than does the Copyright Act. For example, the Copyright Act says nothing about time-shifting, but the Communications Act forbids it. Similarly, the Communications Act imposes many restrictions on carriage of significantly-viewed signals, none of which appears in the Copyright Act.

Even if the phrase "an antenna" was thought to be ambiguous as between rooftop and indoor antennas, that would mean only that it is for the expert agency—the Commission—to

[4] *See* Comments of Broadcaster Associations at 4-9.

determine whether abandonment of its decades-long reliance on outdoor antennas was appropriate. That Congress did not dictate use of indoor antennas is clear from its decision *not* to specify an "indoor antenna," a "conventional indoor antenna," an "antenna used indoors," or some similar phrase. It would be especially crucial for Congress to make its intentions clear when the Commission had recently told Congress, in a report repeatedly referenced in STELA, that the use of an indoor antenna standard was impracticable.[5]

The carriers' engineering proposals are patently unsound, and most of them have already been rejected by the Commission and the courts. At the outset, DIRECTV and DISH seek to impose a standard of service—to indoor antennas—that would clearly be crippling if applied to their own business, which relies on line-of-sight transmission from satellites to outdoor antennas. In the carriers' vision, although satellite carriers can deliver signals only to outdoor antennas, TV stations should be required to deliver signals to indoor antennas. To achieve this previously unknown assumption for service, TV stations would need to use staggering power levels and face multimillion dollar electric bills every month. Even assuming that such high electric usage could occur, the interference among stations' signals would render broadcast service virtually useless to the public.

It is because our television broadcasting system cannot function in this way that the Commission has always assumed that, if an indoor antenna is insufficient for a particular household, it will rely on a rooftop antenna. And it is not just the Commission that makes this assumption—so does DIRECTV in giving advice to its customers:

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[5] *See 2005 Report to Congress* at ¶¶ 40-45.

> In general, as you move further from the transmitter location a broadcast signal becomes weaker. . . . Because indoor units are less likely to have a clear line-of-sight, homes that depend on Rabbit Ear antennas may find it more difficult to receive digital signals. ***Some locations may need to switch to a roof mounted antenna in order to receive an acceptable digital signal***.[6]

Thus, the carriers' unsubstantiated claims about reliance on indoor antennas and supposed disappearance of rooftop antennas are contradicted by, among other things, DIRECTV's own advice to its customers. They are also contradicted by the Commission press releases that the carriers selectively, and misleadingly, quote.

Because of the enormous variability from one household to another in building materials and construction type, it would be impossible to develop an accurate predictive model for indoor reception. Further, a television could be located in a variety of locations around the home, which may have widely different reception characteristics. An "indoor antenna ILLR" would necessarily make many very inaccurate predictions. A predictive model based on indoor antennas would therefore violate the Act's requirement that the model be "reliable" and the Copyright Act's requirement that it be "accurate." To achieve even minimal accuracy, the Commission would need to conduct extensive engineering research to develop reliable information about building loss and other relevant factors.

The adjustments that DIRECTV and DISH propose to make to the minimum signal strength required by the Act are unfounded. They ask the Commission to add 3 additional dB based on multipath problems, but the Act does not give the Commission that authority. In addition, modern receivers do an excellent job at combating multipath, making any such

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[6] DIRECTV web site, "Can I Use My Current Antenna to Get a Distant Signal?" http://support.directv.com/app/answers/detail/a_id/2621 (visited Sept. 1, 2010) (emphasis added).

adjustment unnecessary. The same is true of interference, and the Commission is correct in rejecting the DIRECTV/DISH suggestion to add a new layer of complexity on ILLR by adding interference.

The carriers' proposals about taking into account land use and land cover are too vague to deserve any consideration by the Commission. Other than a passing mention of Google Earth and of unidentified "precise mapping tools," they give the Commission nothing to work with. In any event, the Commission's existing approach to land use and land cover has worked well and is not in need of repair.

The carriers' proposal to raise time variability for TV broadcast stations from 90% to 99% has been carefully considered and rejected by the Commission in earlier proceedings. The most important reason to reject the carriers' proposal is that 90% time variability applies only at the edges of a station's service area, and even homeowners there can improve their reception by use of a directional rooftop antenna and a preamplifier.

DIRECTV and DISH suggest that different standards should apply to households with, and without, a rooftop antenna. This overtly discriminatory proposal would be a recipe for conflict and resentment.

The carriers' request for a "picture test," in addition to a signal strength test, is inconsistent with the plain language of the statute and with settled case law. It would also lead to innumerable problems in determining whether a consumer's lack of picture was caused by signal issues or by, for example, the presence of interfering electronic devices close to the television.

The proposed indoor testing protocol offered by the carriers' expert, Mr. Kurby, is riddled with problems. He does not address the problem of multiple TVs in a home; he does not require testing antennas to be calibrated; he proposes a type of antenna that must be extended to

nearly nine feet for some stations; he proposes to put the antennas close to or on the floor; and he recommends that antennas be improperly oriented in two different ways.

The carriers' proposed testing procedures would be much more burdensome on consumers than the procedures currently followed. They are thus directly contrary to STELA's command that the Commission "seek ways to minimize consumer burdens associated with on-location testing."

Finally, the Commission should reject the carriers' efforts to expand delivery of distant signals for their own financial advantage.

II. STELA Requires the Commission to Prescribe the Digital ILLR Model the Commission Recommended to Congress in 2005

A. The Statutory Mandate of Section 339(c)(3)(A) Is Unambiguous

As the Broadcaster Associations demonstrated in their Comments, amended Section 339(c)(3)(A) requires the Commission to adopt the digital ILLR model the Commission recommended to Congress in 2005 following the directive of SHVERA to study and make recommendations concerning a digital predictive model.[7] The digital ILLR model the Commission recommended, and that STELA now directs the Commission to rely on, requires use of an outdoor antenna. Remarkably, DIRECTV and DISH fail entirely even to mention that Congress expressly directed the Commission to adopt the digital ILLR model it recommended to Congress in 2005.

In addition to the clear directive in the second sentence of amended Section 339(c)(3)(A), the first sentence of that section directs the Commission to prescribe a predictive model for

[7] *See* Comments of Broadcaster Associations at 4-9.

determining the ability of individual households to receive signals in accordance with the signal intensity standard in Section 73.622(e)(1) of the Commission's rules. Section 73.622(e)(1), in turn, is predicated on outdoor antennas.[8] Thus, importantly, this STELA version references a Commission rule with an underlying assumption of outdoor antennas where the previous SHVERA version of the statute referenced Section 119(d)(10)(a) of the Copyright Act.

All together, Section 339(c)(3)(A) unequivocally and unambiguously requires the Commission to adopt the 2005 recommended digital ILLR model with its reliance on outdoor antennas.[9]

The satellite carriers would have the Commission conclude that STELA eliminated an outdoor antenna requirement. Neither the SHVIA nor the SHVERA version of Section 339, however, specifically referenced an outdoor antenna. *See* 47 U.S.C. § 339(c) (2004). Therefore, there is no deletion of an outdoor antenna standard for the Commission to construe. And, there is nothing irreconcilable in STELA's version of Section 339(c)(3)(A) with the use of the word "antenna" and the requirement that the Commission adopt its recommended digital ILLR model which was based on, and requires, the use of an outdoor antenna.

The plain fact is, SHVERA already required the Commission to examine the indoor

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[8] *See 2005 Report to Congress* at ¶¶ 40-45; *see also* NPRM at ¶ 20.

[9] As the Broadcaster Associations noted in their Comments, even if the unqualified word "antenna" were ambiguous in the first sentence of 47 U.S.C. § 339(c)(3)(A), the direction to the Commission to prescribe a *particular* model in the second sentence is crystal clear, and the specific governs the general. *See North American Catholic Educ. Programming Found., Inc. v. FCC*, 437 F.3d 1206, 1209 (D.C. Cir. 2006) ("[I]t is a commonplace of statutory construction that the specific governs the general." (internal quotation marks and citation omitted)). And even if that rule did not govern and the two sentences were in conflict, the latter would still govern the former. *See In re Pieri*, 86 B.R. 208, 212-13 (B.A.P. 9th Cir. 1988) ("It is long settled that where there is an irreconcilable conflict between different parts of the same act, the last in order of arrangement will control.").

antenna issue, and the Commission's recommendation that an indoor antenna test was inappropriate was reported to Congress in 2005.[10] Congress, obviously, was aware of the nature of the Commission's recommendation, and it expressly referenced the Commission's report in two separate sections of STELA.[11] Had Congress intended the Commission to alter the digital ILLR model to account for indoor antennas, it would have said so directly.

It is clear that Congress knows how to direct the Commission to take account of particular factors. In SHVIA, for example, Congress not only directed the Commission to rely on the ILLR model as set forth by the Commission in Docket No. 98-201 but also to "ensure that such model takes into account terrain, building structures, and other land cover variations." 47 U.S.C. § 339(c)(3)(A) (1999). No such similar language instructing the Commission to take account of indoor antenna usage appears in STELA.[12]

In sum, Section 339(c)(3)(A) is clear: It tells the Commission to prescribe a model to predict whether signals satisfying the noise-limited thresholds set forth in a Commission rule—thresholds whose underlying assumptions require the use of outdoor antennas—can be received at individual locations *and* for the Commission, in prescribing such a model, to rely on the digital ILLR model the Commission already developed and recommended to Congress pursuant to an earlier congressional directive. When Congress's directive to an agency is clear, there is no room for the agency to deviate. *See Halverson v. Slater*, 129 F.3d 180, 184 (D.C. Cir. 1997)

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[10] *See 2005 Report to Congress* at ¶¶ 40-45.

[11] *See* 17 U.S.C. § 119(a)(2)(B)(ii)(III); 47 U.S.C. § 339(c)(3)(A).

[12] *See, e.g., Kimbrough v. United States*, 552 U.S. 85, 103 (2007) ("Congress has shown that it knows how to direct sentencing practices in specific terms."); *see also Star-Glo Assocs., LP v. United States*, 414 F.3d 1349, 1351 (Fed. Cir. 2005) (finding "Congressional awareness of past agency practice . . . directly reflected in the text of the statute").

(Under "[t]he *Chevron* framework," "'the court must first exhaust the traditional tools of statutory construction to determine whether Congress has spoken to the precise question at issue. . . . If the court can determine congressional intent, then that interpretation must be given effect.'" (quoting *Natural Resources Def. Council, Inc. v. Browner*, 57 F.3d 1122, 1125 (D.C. Cir. 1995) (emphasis omitted)); *see also California Indep. Sys. Operator Corp. v. FERC*, 372 F.3d 395, 400 (D.C. Cir. 2004) ("In considering clarity and specificity of congressional intent" at *Chevron* step one, "we recall that '[a]mbiguity is a creature not of definitional possibilities but of statutory context. . . . The issue is not so much whether [a statutory term] is, in some abstract sense, ambiguous, but rather whether, *read in context* and using the traditional tools of statutory construction," congressional intent is clear. (quoting *Brown v. Gardner*, 513 U.S. 115, 118 (1994) (emphasis added)). Here the directive to the Commission to adopt the digital ILLR model it recommended to Congress could not be more specific or clearer. There is nothing left in this respect for the Commission to do (unlike in SHVIA when the Commission was given latitude to examine other factors).

B. STELA Did Not Impose an Indoor Antenna Requirement As the Satellite Carriers Suggest

Notwithstanding this clear statutory mandate, the satellite carriers suggest that STELA requires the Commission to alter the digital ILLR model to account for indoor antennas.[13] Their argument is simply wrong.

First, the deletion of the words "conventional stationary outdoor rooftop receiving" in Section 119(d)(10)(A) in the Copyright Act cannot carry the weight that the satellite carriers would have it bear. They ignore entirely the clear mandate in the Communications Act to adopt

[13] *See* Comments of DIRECTV and DISH at 2, 9-14.

the digital ILLR model with its reliance on outdoor antennas. Obviously, the Commission's first task and primary responsibility must be to implement the Communications Act as directed by Congress, and the task given in the Communications Act, as amended by STELA, was very specific: to prescribe a predictive model that relies on the digital ILLR model the Commission previously recommended to Congress.

Second, the congressional report that the satellite carriers cite to assert that the deletion of the outdoor antenna language in the Copyright Act must mean that Congress intended the Commission to take indoor antennas into account cannot support their assertion. That report accompanies a separate and different bill (H.R. 2994)—*a bill that did not become law*. More importantly, the bill that was rejected, and its accompanying report, refer not to the word "antenna" in isolation but refer, instead, to a new *study* the Commission was directed to conduct. The satellite carriers are thus quoting the bill and report out of context. The full context in the report is as follows:

> Section 4(b)(2) of the bill also requires the Commission to complete a pending rulemaking concerning on-location testing of a household's ability to receive an over-the-air digital signal, within 180 days of the date of enactment of SHVRA. Section 4(b)(2) of the bill also requires the Commission to conduct a study and issue a report to Congress within one year of the date of enactment to determine whether, for purposes of identifying if a household is unserved by an adequate digital signal, the Commission should revise the signal strength standard or the testing procedures in its rules to take into account the types of antennas available and used by consumers.
>
> The Committee expects the Commission to consider the types of antennae that are readily available for purchase by consumers to receive the signals of local digital television broadcast stations over the air. Just as there are some households that, prior to the digital television transition, could not receive analog signals over the air, so there are, after the digital television transition, some households that cannot receive digital signals over the air. *The purpose of the study and subsequent report to*

> *Congress is to provide Congress with the information it may need to determine whether there is a need to revise the existing standard for measuring a household's ability to receive a distant network signal.*

H.R. REP. NO. 111-349 (2009), at 18-19 (emphasis added). The full context of the report, therefore, makes clear that Congress knew that the Commission-recommended digital ILLR model did not include indoor antennas. (If not, then there would, obviously, be no need for the Commission to revise it.) The fact that the study requirement in Section 339(c)(3)(C), as proposed in H.R. 2994, *see* H.R. Rep. No. 111-349, at 36, was *dropped* from the final STELA bill that was enacted clearly shows that Congress both (i) knew what it was doing when it told the Commission to rely on the digital ILLR model and (ii) did not intend for the Commission to abandon the long-standing outdoor antenna requirement.

Third, the Copyright Act provisions themselves, as amended by STELA, show that Congress intended the Commission to rely on its 2005 digital ILLR model. Section 119(a)(2)(B)(ii)(III) states as follows:

> Notwithstanding subclause (I), in determining presumptively whether a person resides in an unserved household under subsection (d)(10)(A) with respect to digital signals, a court shall rely on a predictive model set forth by the Federal Communications Commission pursuant to a rulemaking as provided in section 339(c)(3) of the Communications Act of 1934, as that model may be amended by the Commission over time under such section to increase the accuracy of that model. Until such time as the Commission sets forth such model, a court shall rely on the predictive model as recommended by the Commission with respect to digital signals in its Report to Congress in ET Docket No. 05-182, FCC 05-199 (released December 9, 2005).

17 U.S.C. § 119(a)(2)(B)(ii)(III). Thus, not only the Communications Act portion of STELA, but the Copyright Act portion of STELA as well, expressly and specifically references the rulemaking the Commission must undertake to adopt the 2005 digital ILLR model (by

referencing Section 339(c)(3)). To assure there is no slippage or inconsistency, the Copyright Act also requires the courts to rely on that same model until the Commission completes the rulemaking in compliance with the Administrative Procedures Act.

These references to the digital ILLR model, which relies *only* on outdoor antennas, make it clear that Congress did not intend to change the long-established nature of the "unserved household" definition with respect to outdoor antenna usage. The deletion of the words "conventional, stationary, outdoor rooftop receiving" are nothing more than the removal of surplusage, words that are no longer necessary in light of the nature of the analog ILLR model the Commission already adopted and the digital ILLR model the Commission previously recommended and now is specifically directed to adopt. *See United States v. Rosser*, 528 F.2d 652, 656 (D.C. Cir. 1976) (Skelly Wright, J.) (holding that "intent to defraud" element of crime had been deleted from statute as "surplusage" since the element was inherent in another statutory element of the crime); *United States v. Gayle*, 967 F.2d 483, 486-87 (11 Cir. 1992) (en banc) (same). In any event, the Commission should not infer from the deletion of the words the wholesale change in the fundamental nature of the ILLR model that the satellite carriers desire, especially in view of the clear language in Section 339(c)(3)(A) and the entire context of STELA. *See Negonsott v. Samuels*, 507 U.S. 99, 109 (1993) ("[T]o the extent one may draw a negative inference from Congress' decision to delete the specific reference to the effect of the Kansas Act on the Indian Major Crimes Act, we think is too slender a reed upon which to rest departure from the clear import of the text of the Kansas Act.")

C. The Communications Act Imposes More Restrictions On Carriers Than the Copyright Act Does

Even if Congress did contemplate that the "unserved household" definition in Section 119(d)(10)(a) could include both indoor and outdoor antennas—and there is no legislative history to suggest that Congress did, in fact, contemplate this result—that does not change the statutory requirement in the Communications Act for the Commission to adopt the 2005 digital ILLR model and its use of outdoor antennas. Satellite carriers must comply independently with both the Copyright Act provisions and the Communications Act provisions governing satellite retransmission of broadcast television signals. The Copyright Act, in its grant of the compulsory copyright licenses, does not include several requirements that the Communications Act imposes. For example, while Section 119 of the Copyright Act does not limit satellite carriers to particular distant network signals that they may retransmit to unserved households, Section 339(a)(2)(D)(iii) of the Communications Act expressly prohibits time-shifting and limits such retransmission to a "station whose prime time network programming is generally broadcast simultaneously with, or later than, the prime time network programming of the affiliate of the same network in the local market." 47 U.S.C. § 339(a)(2)(D)(iii). Similarly, while Section 122(a)(2)(A) of the Copyright Act imposes no limitation on retransmission of significantly viewed signals, Section 340(b) of the Communications Act imposes multiple limitations on retransmission of significantly viewed signals, including a requirement that a satellite carrier retransmit the local station in an HD format as a condition precedent to satellite retransmission of a significantly viewed signal in an HD format. *See* 47 U.S.C. § 340(b). In addition, Section 341(b) of the Communications Act prohibits, other than to unserved households, satellite retransmission of any significantly viewed signal into an adjacent market that is comprised of only a portion of a county. *See* 47 U.S.C. § 341(b).

These provisions in the Communications Act are not contrary to their corresponding provisions in the Copyright Act. They do not need to be reconciled since they are not inconsistent. Congress acted one way in creating the compulsory licenses and copyright policy, and it acted in a more restrictive way in implementing satellite retransmission rights and obligations as a matter of communications law and policy. The same is true in the Communications Act with respect to the directive to the Commission to prescribe a predictive model that relies on the digital ILLR model the Commission previously recommended to Congress—a model, as noted above, based on outdoor antennas.

D. Even Construing the Term "Antenna" Most Generally, the Commission Should Not Alter the Digital ILLR Model to Account for Indoor Antennas

As demonstrated above, STELA's clear mandate is to continue use of an outdoor antenna both for signal strength prediction and for testing. Even if it were argued that the language in amended Section 339(c)(3)(A) did not *mandate* reliance on an outdoor antenna standard or that, in its contextual entirety, STELA's change of the phrase "a conventional, stationary, outdoor rooftop receiving antenna" to "an antenna" in the Copyright Act's definition of an unserved household left open the possibility that an outdoor antenna standard was no longer required, the Commission, as the expert agency, in its NPRM correctly indicated that continued reliance on an outdoor antenna standard in its digital ILLR model should be required.

Surely it is significant that Congress did *not* change this phrase in the Copyright Act to say "an indoor antenna," as it easily could have done. Instead, Congress chose the general phrase "an antenna." In isolation and out of context, the term "an antenna" could range from an outdoor antenna mounted on a tall tower to a three-inch antenna on a handheld device.

In the NPRM the Commission stated: "[W]e believe that Congress's use of the term 'antenna' in the STELA grants the Commission greater flexibility to take into account different types of antennas."[14] Under this interpretation, the words "conventional, stationary, outdoor rooftop receiving" in STELA were replaced with a general term whose specific meaning was to be informed by the Commission's expertise. This interpretation is consistent with the satellite carriers' own cited principles of statutory construction.[15] But DIRECTV and DISH's desired outcome—the required adoption of an indoor antenna standard—does not follow from these principles. Rather, at most, Congress' intended outcome was that the Commission is authorized to review whether an outdoor antenna should continue to be used for determining eligibility to receive distant network signals.

On this view, Congress's decision to specify neither an "outdoor antenna" nor an "indoor antenna" but simply "an antenna" is telling. Congress, clearly, knew how to be specific about the type of antenna the Commission should assume: the prior version of this provision was exceedingly detailed in calling for a "conventional, stationary, outdoor rooftop receiving antenna." 17 U.S.C. § 119(d)(10)(A) (2004). If Congress had intended to specify an indoor antenna, it would have said "an indoor antenna" or "a conventional indoor antenna" or "an antenna placed in a home."[16] It would be particularly important for Congress to spell out its intentions when the Commission had recently told Congress, as directed to in SHVERA, that it strongly opposed use of indoor antennas for this purpose.[17] That Congress chose not to specify

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[14] NPRM at ¶ 21.

[15] *See* Comments of DIRECTV and DISH at 10.

[16] *Cf.* 47 U.S.C. § 339(c)(1)(B)(i) (using phrase "antenna . . . placed in a home").

[17] *See 2005 Report to Congress* at ¶¶ 40-45.

an "indoor antenna" or some similar locution in light of this history is powerful evidence that it did not have this intent.

As noted above, Congress has shown that it knows how to give specific commands under the satellite laws. In SHVIA, for example, Congress specifically directed the Commission to ensure that its predictive model "takes into account terrain, building structures, and other land cover variations." 47 U.S.C. § 339(c)(1)(A). And in SHVERA, Congress directed the Commission to conduct a study to evaluate a long series of highly specific factors, expressly including whether "to account for the fact that an antenna can be mounted on a roof or placed in a home." 47 U.S.C. § 339(c)(1)(B)(i). It is that very study, of course, that resulted in the Commission's *2005 Report to Congress* rejecting the use of an indoor antenna standard as unworkable.

It is simply not plausible that Congress, through the use of the unqualified term "antenna," intended to require an indoor antenna standard. The consequences of specifying an indoor antenna are so profound—for example, stations would need to increase their power levels by a factor of 2.5 million, per the carriers' expert (*see* p. 22) to continue to serve their viewers—that one would expect Congress to say so clearly. *See, e.g.*, *Allen v. Principi*, 237 F.3d 1368, 1381 (Fed. Cir. 2001) ("If Congress intended [the amended statute] to alter existing agency practice . . . it would have said so explicitly.").[18]

[18] This interpretation is further bolstered by the fact that Congress in STELA directed the Register of Copyrights to conduct a study on "how to implement a phase-out of the statutory licensing requirements set forth in sections 111, 119, and 122" of the Copyright Act and also directed the Comptroller General to conduct a study on what changes to carriage requirements would be necessary "if Congress implemented a phase-out of the current statutory licensing requirements set forth under sections 111, 119, and 122" of the Copyright Act. *See* STELA, §§ 302, 303, Pub. L. No. 111-175, 124 Stat. 1218, 1255-56 (2010). Congress would not have mandated a massive expansive of the distant signal license through the required use of an indoor

Finally, even putting aside STELA's directive that the Commission adopt the 2005 digital ILLR model with its reliance on outdoor antennas, for all of the other reasons discussed in the Broadcaster Associations' Comments and herein, it would be bad public policy for the Commission to alter the digital ILLR model to account for indoor antennas.

III. STELA Did Not Amend Section 119 or Section 339 to Give Satellite Carriers a Financial Advantage

It is apparent that the satellite carriers' interpretation of amended Section 119 is not motivated by the relative scientific or engineering merits of indoor versus outdoor antennas, but rather principally by a desire to take advantage of the distant compulsory license for their own financial benefit. In *ex parte* presentations to the Chairman, Commissioner Copps, and staff in these dockets, DISH states that

> DISH discussed the importance of incorporating an indoor "rabbit ears" TV antenna into the predictive model and on-site testing procedures for determining "unserved households" that are eligible to receive distant network signals via satellite. . . . DISH noted that broadcasters receive higher fees for satellite retransmission of local stations compared to the compulsory copyright rates for distant signals, meaning that broadcasters have a financial incentive to resist STELA's elimination of the outdoor rooftop antenna standard.[19]

As this statement makes clear, the satellite carriers believe they have a financial incentive to circumvent carriage of local stations whenever and however possible under an assumption that by carrying distant network signals instead—from which they do not need to obtain

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antenna standard while plainly contemplating the repeal of the underlying compulsory license in Section 119 without clearly and unambiguously saying so.

[19] DISH Network *Ex Parte* Presentations, ET Docket No. 10-152; ET Docket No. 06-94 (filed Aug. 30, 2010), at 2.

retransmission consent[20]—they would not have to pay retransmission consent fees while charging their customers nearly *ten times* their cost in distant signal royalty fees. It is clear that the carriers are attempting, in this proceeding, to lay the groundwork for that option.[21]

To be clear, broadcasters support retention of the outdoor antenna standard—a standard mandated by amended Section 339(c)(3)(A)—because (1) the over-the-air television broadcasting system has been predicated on outdoor antennas for more than 60 years, and part and parcel with it, the desire to reach all possible viewers so that their service is attractive to advertisers; (2) broadcasters have just spent billions of dollars transitioning to digital television in reliance on the Commission's use of an outdoor antenna for its channel allocations; and (3) it will best serve the public interest in having local programming available to local audiences.

In any event, STELA evinces no congressional intent to reduce the program exclusivity of local stations or to adversely affect retransmission consent and localism in the way desired by the satellite carriers here—namely, a scheme to significantly and artificially shrink television service areas while exponentially increasing the number of distant network customers. The only, and very limited, portion of STELA dealing with retransmission consent is the amendment to Section 325 of the Communications Act extending for an additional five years the good faith negotiating requirement and the prohibition on exclusive retransmission consent carriage

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[20] *See* 47 U.S.C. § 325(b)(2)(C).

[21] The satellite carriers' purported concern is contrary both to STELA and to the principle of localism which undergirds it. Because, for example, DISH already relies on the Section 122 license to deliver local-into-local in all 210 DMAs and because of the "if local, no distant" principle embedded in the Act, *see* 17 U.S.C. § 119(a)(3)(C)(i), DISH cannot offer a distant network signal to a new subscriber (and, assuming the U.S. District Court for the Southern District of Florida waives the permanent injunction barring DISH from use of the Section 119 license, all distant signal subscribers will be "new subscribers" for DISH) in any market, except to the handful of households in an otherwise served DMA that are unable to receive all local television stations by satellite because they are located outside the satellite carrier's spot beam.

contracts.[22] The fact that Congress made these very limited revisions extending long-standing retransmission consent policies in one section of STELA, and then either mandated Commission adoption of the digital ILLR model recommended to Congress in 2005 or, at most, turned over a technical issue to the Commission's discretion in other parts of STELA, is a strong indication that Congress did not intend to use STELA as a vehicle to make major revisions to retransmission consent and localism through the back door of the "unserved household" provision as the satellite carriers seem to suggest.

In light of the foregoing, the Commission should be particularly wary of the satellite carriers' extreme reach here as it would put them in a different position than their cable and telco MVPD competitors—a result that surely cannot have been intended by Congress. In short, the Commission should reject the satellite carriers' entreaties to undermine localism for their own perceived financial advantage in retransmission consent negotiations.

IV. The DISH/DIRECTV Indoor Antenna Proposals Have a Single Purpose: To Expand the Number of Households Considered "Unserved," Without Regard to the Impact on the Public Interest

The apparent objective of the satellite carriers' filing can be summarized very simply:

1. relying on the (false) premise that STELA requires use of indoor antennas, create a vast new class of (served) households that will be considered "unserved"; and

2. further expand the number of supposedly "unserved" households through engineering arguments, for the carriers' financial benefit.

It is telling that DIRECTV and DISH have chosen as their engineer someone with no television or broadcast experience whatsoever. *See* Christopher Kurby c.v. (attached to back of

[22] *See* STELA, § 202, Pub. L. No. 111-175, 124 Stat. 1218, 1245 (2010) (amending 47 U.S.C. § 325(b)(3)(C)).

Engineering Statement). Perhaps because Mr. Kurby's experience is limited to mobile devices, which, of course, use a different part of the electromagnetic spectrum, he reaches many conclusions that simply cannot be applied to the broadcast industry. *Id.*[23]

Mr. Kurby opines, for example, that indoor testing should be conducted with a half-wave dipole, apparently unaware that, to measure a low-VHF channel such as Channel 2, one would need to maneuver a huge, hulking device—nearly nine feet long—inside modest-sized living rooms. Reply Engineering Statement of Meintel, Sgrignoli & Wallace, LLC ("MSW Reply Engineering Statement"), ¶ 30.

It is readily apparent that the purpose of the Kurby engineering statement is to maximize the number of households characterized as "unserved." For example, after discussing all of the reasons that broadcasters should be required to deliver a stronger signal for a household to be considered "served," Mr. Kurby adds up the number of extra dB's a station broadcasting at 700 MHz should be required to deliver (over and above what the Act requires) to an indoor antenna. According to Mr. Kurby's estimates of the effects of building losses, clutter, and a wide range of other things,[24] a station would need to deliver *an additional 64 dB* to avoid a household being considered unserved. Because decibels are on a logarithmic scale, this amounts to an almost

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[23] Virtually all of Mr. Kurby's references are to papers about mobile communications. MSW Reply Engineering Statement, ¶ 17. In the same vein, Mr. Kurby suggests that a "correction factor for a change in *mobile antenna* height" should be applied to television broadcast predictions. Kurby Engineering Statement at 2 (emphasis added); *see* MSW Reply Engineering Statement, ¶ 22.

[24] Kurby Engineering Statement at 5:

> K= Ant_out_in + Ant_ht_out_in + Clutter_factor + Build_loss +NF_typ_calc + NF_mismatch + Equalizer_deg + 90%_to_99%.
>
> K=-9 -7.7 -0 -20 -11.3 -3 -3 -10 dB
>
> **= 64dB**

inconceivable increase in power: the station would need to use more than *two and a half million times the amount of power* to deliver what Mr. Kurby (and the carriers) consider an adequate signal to a household that currently is considered served. MSW Reply Engineering Statement, ¶ 8. For example, a UHF digital television station that currently broadcasts with an Effective Radiated Power ("ERP") of 1,000 KW would need to increase its radiated power 2,511,886,000 (more than two and a half million) times to satisfy Mr. Kurby's insistence on adding 64 dB of signal strength. MSW Reply Engineering Statement, ¶ 8. This translates into an increase in electricity demands of 231,886,432 KW. *Id.*, ¶ 9.

The practical effect of Mr. Kurby's proposal is that each TV station would need its own power plant to serve its viewers. In fact, each station would need a *fleet* of power plants: 56 plants the size of the world's largest coal-fired power plant, in South Africa, which generates 4.116 billion watts of electricity. MSW Reply Engineering Statement, ¶ 9. A single TV station would require more electricity than is generated in many entire countries. The combined power demands of all U.S. network stations would likely outstrip the electrical generating capacity of the entire world. And no TV station could continue to operate if its electric bill increased by a factor of more than two and a half million. *Id.*

In short, the DIRECTV/DISH/Kurby proposals are misguided and wildly unrealistic. They illustrate the Commission's wisdom in tentatively concluding that the use of rooftop antennas should be assumed in determining eligibility under STELA. NPRM, ¶ 21-22.

A. Most of the Satellite Carriers' Arguments Have Already Been Rejected by the Commission and the Courts

If the satellite carriers' filing has a familiar quality, it is for good reason: their arguments are, almost without exception, ones that they have made, and that the Commission and the courts have correctly rejected, in the past.

For example, the carriers argue, on policy grounds, that the Commission should adopt an indoor antenna standard. Comments of DIRECTV and DISH at 7-8. DISH (then EchoStar) made the same arguments five years ago. The Commission rejected EchoStar's proposal in its exhaustive report to Congress under SHVERA. *See 2005 Report to Congress*, ¶ 43 ("We also find that it would not be appropriate to account for the use of indoor antennas in the TV field strength signal standards for purposes of determining eligibility for reception of distant network signals.").

DISH and DIRECTV argue that the time variability factor should be hiked from 90% to 99%. Comments of DIRECTV and DISH at 17. Again, DISH made the same argument five years ago. And again, the Commission carefully and thoughtfully rejected that argument in its report to Congress. *2005 Report to Congress* at ¶¶ 91-92 ("Considering all of the information on this issue, we are not persuaded that changes to the time variability planning factor values are warranted.").

As DISH did in 2005, the satellite parties advocate an increase in the minimum signal strength that counts as "service," based on multipath issues. Comments of DIRECTV and DISH at 3, 18-19. Based on exhaustive testing of the ability of receivers to overcome multipath, the Commission concluded: "we do not believe that a factor for multipath should be added to the minimum signal level assumed to be needed to receive DTV service." *2005 Report to Congress*,

¶ 78. Since 2005, of course, receivers have only improved in their ability to deal with multipath. MSW Reply Engineering Statement, ¶¶ 27-28, 31.

Finally, DIRECTV and DISH argue that, instead of a signal strength test, there should be a "reception" test. Comments of DIRECTV and DISH at 23-24. This argument dates back to the early days of the statute, when courts firmly ruled that "signal strength" means "signal strength," not picture quality. *CBS, Inc. v. PrimeTime 24 Joint Venture*, 9 F. Supp. 2d 1333, 1339 (S.D. Fla. 1998) ("Despite PrimeTime 24's contention that clear reception of network signals is of significance, the statute does not discuss clear reception."). The same is true today.

The Commission should again reject these arguments.

B. Every Household at Issue Here Has Already Chosen to Have an Outdoor Antenna: A Satellite Dish

The satellite parties do not now dispute, nor have they ever disputed, that their customers absolutely must use an outdoor antenna (namely a satellite dish). Requiring satellite carriers to deliver signals to indoor antennas would destroy DIRECTV's and DISH's businesses. Yet the carriers demand that TV stations deliver signals to indoor antennas throughout their service area, knowing that there is no way that stations can do so. Neither requirement would serve the public interest. *See 2005 Report to Congress*¸ ¶ 45 ("broadcast interests make a compelling point in their observation that satellite dishes likewise can not provide service indoors to such households").

C. The Carriers' Proposed Indoor Antenna Regime Is Radically Inconsistent with the Most Fundamental Premises of the Television Broadcast System

DIRECTV and DISH say that indoor antennas are popular, at least in certain areas, and no doubt that is so. Comments of DIRECTV and DISH at 7-8.[25] The carriers cite no evidence, of course, that indoor antennas are used towards the outer reaches of a station's coverage area, because there is none.

With virtually no factual basis, DIRECTV and DISH go on to argue that rooftop antennas are less common than before. This suggestion is surprising, since DIRECTV itself strongly encourages its customers to purchase and install rooftop antennas. For example, DIRECTV recommends an "Omnidirectional, UHF/VHF antenna," which "***mounts easily on the roof*** and picks up most television signals in a 360-degree radius."[26] DIRECTV goes on to tell its customers:

> In general, as you move further from the transmitter location a broadcast signal becomes weaker. . . . Because indoor units are less likely to have a clear line-of-sight, homes that depend on Rabbit Ear antennas may find it more difficult to receive digital signals. ***Some locations may need to switch to a roof mounted antenna in order to receive an acceptable digital signal***.[27]

And both carriers support homeowners in fighting for the right to install rooftop antennas on their homes, in the face of contrary homeowner association rules. *See* RBR-TVBR,

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[25] The carriers' claims about the supposed triumph of indoor antennas are supported by … virtually nothing. Other than citing to their own previous Comments, the carriers cite a total of a single magazine article in support of their claim.

[26] DIRECTV web site, "How Can We Help You?" http://support.directv.com/app/answers/detail/a_id/1789 (visited Sept. 1, 2010) (emphasis added).

[27] DIRECTV web site, "Can I Use My Current Antenna to Get a Distant Signal?" http://support.directv.com/app/answers/detail/a_id/2621 (visited Sept. 1, 2010) (emphasis added).

Townhome Owners Win Rooftop Antenna Rights (Nov. 2, 2009) ("A couple wishing to install a rooftop antenna on their townhome have defeated their townhome owner's association, with assists from DISH, DIRECTV and the Satellite Broadcasting and Communications Association of America").[28]

In any event, based on their unsupported claims, the carriers argue that the statutory test should be based on indoor antennas. *Id.* That argument is based on a complete misunderstanding of the U.S. television broadcast system.

Of course, many households, particularly those closer to TV towers, are able to use indoor antennas. *See 2005 Report to Congress*, ¶ 44 ("As with analog TV, digital TV signals are receivable at many locations with an indoor antenna. As the distance between the DTV transmitter and receive locations increases, the received signal strength decreases and the opportunities for indoor reception decrease in the same manner as for analog service.") And it is not surprising that a household that can get good reception with an indoor antenna will forego installing a rooftop antenna.[29]

But as the DIRECTV web site recognizes, as the distance between the station's transmitter and a household increases, or in closer-in areas in which a station's signal is

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[28] This article is available at http://www.rbr.com/tv-cable/18192.html.

[29] DIRECTV and DISH claim (at 8-9) that NAB's website shows that 45% of those predicted to receive a signal under the ILLR model are predicted not to do so by the AntennaWeb site previously promoted by NAB. The reason for this discrepancy is that the AntennaWeb site is designed to be *extremely conservative*: it runs the ILLR model in a non-standard way to underpredict service. The committee that designed AntennaWeb adopted this policy because the site is designed to encourage purchase of antennas, and the goal is to take no risk of a disappointed purchaser. (NAB brought these facts to the Commission's attention shortly after DIRECTV disclosed this study in 2009.)

Of course, when ILLR predictions were compared to actual *measurements*—the real test of their accuracy—the model performed beautifully, with the model making nearly 95% correct predictions. *2005 Report to Congress*, ¶ 143.

obstructed, reliance on indoor antennas becomes increasingly unrealistic. For these households, use of a rooftop antenna to receive the station's signal is common. MSW Reply Engineering Statement, ¶ 4. As MSW explain:

> People have come to understand, in the analog as well as in the digital broadcast world, that indoor antennas are an option for those viewers located in higher signal levels areas or near the transmitter. However, they are not intended, and never were intended, to be used at locations far away from the transmitter location, nor can they be used in those locations. No engineer would expect an indoor antenna to work at 50+ miles from the transmitter location.

MSW Reply Engineering Statement, ¶ 5.

In other words, households not needing rooftop antennas typically don't install them, while households that need them do so. But the ability to receive a signal of adequate intensity with a rooftop antenna has always been (and still is) the test for eligibility. As the Commission explained in its *2005 Report to Congress* (at ¶ 126): it "expects households to make similar efforts to receive digital television as they made for analog," including use of a rooftop antenna when necessary.[30]

The reason for this reasonable Commission expectation is this: the U.S. television broadcasting system simply could not function if broadcasters were expected to deliver signals to *indoor* antennas throughout their service areas. MSW Reply Engineering Statement, ¶¶ 8-11. Whether universal service to indoor antennas would require a 2.5 million-fold increase in power (per Mr. Kurby's proposal) or merely a 50,000-fold increase, it is utterly impractical. At such

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[30] Misleadingly, the carriers quote the FCC as saying (in its 1999 SHVA Order) that "in some instances….the measurement should be taken inside, near the television." Comments of DIRECTV and DISH at 21. They fail to disclose that the only instance in which this would be permissible would be "***if the signal intensity is stronger inside the unit***." *SHVA Report and Order*, 14 FCC Rcd 2654, 2681 (1999), ¶ 58 (emphasis added).

extraordinary levels of power (if our utilities could somehow generate power in such vast quantities), stations would create tremendous interference with one another. *Id.* The result would be a chaotic system that benefited neither viewers nor broadcasters. MSW Reply Engineering Statement, ¶ 10.

It is for these reasons that this country's digital and analog television systems have relied on the assumption (which DIRECTV shares, as its website show) that viewers for whom indoor antennas are insufficient will use outdoor antennas. *E.g.*, OET Bulletin 69 (planning factors assume rooftop antenna). The Commission simply cannot establish a digital broadcast system based on the assumption of outdoor antennas, and then switch to an assumption of indoor antennas after the fact.

Finally, the carriers' claim (at 8) that the Commission has encouraged the sole use of indoor antennas for all households is belied by the very documents on which the carriers rely. Both of the Commission press releases selectively quoted by the carriers specifically discuss rooftop antennas:

> Over-the-air DTV signals require the same type of antenna (i.e., ***rooftop***, set-top) as analog signals. With digital, however, it's critical that antennas receive both VHF and UHF signals. And ***consumers should check their existing rooftop antennas for wear-and-tear caused by wind and weather and loose connections that could degrade performance.***

FCC Press Release, *Ignorance is Not Bliss: Debunking the Myths about DTV* (June 8, 2009) (cited by DIRECTV/DISH at 8) (emphasis added); *see also* FCC Press Release, *Good Antenna Key to Making the Switch* (June 6, 2009) ("Some viewers may have to install ***rooftop antennas***." (emphasis added)) (cited by DIRECTV/DISH at 8). The Commission has likewise promoted rooftop antennas (when required) in its web site about the DTV transition:

> Do I Need a Special Antenna to Receive DTV Signals?
>
> No. DTV signals do not require a special antenna. The reception of over-the-air DTV programming requires the same type of signal reception equipment (an antenna) that worked with your analog TV set.
>
> ***If you needed a rooftop antenna to receive analog TV broadcasts, the same antenna generally will work to receive DTV broadcasts***. It should not be necessary to purchase new antennas that are marketed "digital ready" or "HD ready."
>
> [. . .]
>
> Consumers who rely on antennas (including ***outdoor antennas*** and "rabbit ears") to receive over-the-air broadcast signals on analog sets with analog tuners will need to obtain separate digital-to-analog set-top converter boxes to watch over-the-air TV."

DTV.gov, available at http://dtv.gov/consumercorner_5.html#faq2 (emphasis added).

D. The Carriers Are Wrong in Criticizing the Commission's Reasoning About the Implications of Adopting Certain Signal Strengths

The carriers quarrel (at 12-14) with the Commission's point in the NPRM (¶ 20) that the signal strength standards specified in STELA implicitly require an outdoor antenna standard. Specifically, DIRECTV and DISH claim that the signal strengths are "just numbers" that convey nothing more than a particular number of dBu's. Comments of DIRECTV and DISH at 13.

But if Congress wanted to specify mere numbers, it could simply have set forth the specific number of dBu's that are set forth in the Commission's regulations, such as 28 dBu's. Instead, in the section the carriers refer to, Congress referred to "the intensity defined in the values for the digital television noise-limited service contour, as defined in regulations issued by the Federal Communications Commission (section 73.622(e) of title 47, Code of Federal Regulations)…." 17 U.S.C. § 119(d)(2)(10)(A)(ii). Congress' decision to refer to values derived

from the "noise-limited service contour," rather than simply to specific numbers, provides ample grounds for concluding that the specified intensities are far more than "just numbers," but instead reflect the process that produced them, including planning factors that require use of outdoor antennas.

Moreover, the regulation to which the Act refers, 47 C.F.R. § 73.622(e), specifically refers to OET Bulletin 69, which, of course, is expressly premised on outdoor antennas. 47 C.F.R. § 622(e)(2); *see* OET Bulletin 69 at 6 (height of antenna assumed to be 10 meters). The explicit reference in the pertinent regulation to OET Bulletin 69 provides further support for the Commission's position.

E. A Predictive Model Relying on Indoor Antennas Would Violate the Statutory Requirements That the Model Be "Reliable" and "Accurate"

There is tremendous variability in the characteristics of different households with regard to their ability to receive television signals indoors. MSW Reply Engineering Statement, ¶¶ 15-17. A house made of reinforced concrete, for example, will have very different characteristics than a household framed with glass exterior walls. *See 2005 Report to Congress,* ¶ 40 ("The amount of signal attenuation indoors will depend on the material used in the building's construction and where the antenna is located within the building."). As Meintel Sgrignoli & Wallace explain:

> To believe that the many complex factors related to indoor reception can be boiled down to a few fudge factors to be added to the predictive model results in a gross over-simplification of the complex propagation environment that comprises a home.

MSW Reply Engineering Statement, ¶ 15.

By contrast, the air space above a household will have generally similar characteristics for every home. MSW Reply Engineering Statement, ¶ 44. Thus, an ILLR model based on outdoor antennas can be reliable and accurate, because of the lack of substantial variation among households in this respect. *See 2005 Report to Congress*¸ ¶ 143 (two different studies show that ILLR is nearly 95% accurate).

A model based on indoor antennas, however, would be neither reliable nor accurate. Because the model would need to assume some compromise ("fudge factor") value for loss of signal strength in penetrating a building, it would necessarily be wrong—and radically wrong—in many cases. MSW Reply Engineering Statement, ¶ 15. A predictive model based on indoor antennas would therefore violate STELA's statutory command that the model must "reliably" predict signal strength. 47 U.S.C. § 339(c)(3)(A) ("the Commission shall develop and prescribe by rule a point-to-point predictive model for ***reliably*** and presumptively determining the ability of individual locations, through the use of an antenna, to receive signals . . . ." (emphasis added)). It would also violate a separate statutory command that the Commission may amend the ILLR model only to make it more accurate. 17 U.S.C. § 119(a)(2)(B)(ii)(III) (predictive model shall be used "as that model may be amended by the Commission over time . . . to ***increase the accuracy*** of that model" (emphasis added)). Instead of making the existing ILLR model more accurate, making predictions of indoor reception would represent a huge step backwards.

To date, the Commission has been faithful to this statutory command: Studies have shown that the ILLR model (assuming an outdoor antenna) is highly accurate, and that errors are evenly balanced between over- and underpredictions. *2005 Report to Congress*, ¶¶ 143, 148. An

indoor model, by contrast, would plunge the Commission into a world of unreliable and inaccurate results, in direct violation of these provisions of the Act.

V. The Carriers' Proposals with Respect to Particular Adjustments Are Seriously Flawed

A. The Commission Has No Authority to Require Additional Signal Strength to Deal with Multipath, and In Any Event There Is No Need to Do So

In the statute, Congress specifies the minimum signal strength that counts as service to a household. 47 U.S.C. § 339(c)(3)(A). The Commission has no authority to change those values.

The Commission *does* have the ability to predict whether a signal of the requisite strength is present at a particular household. Thus, the Commission can take into account variations in terrain (which are accounted for by Longley-Rice, *2005 Report to Congress* at 26) and buildings and vegetation (which are accounted for by use of LULC data, *id*., ¶¶ 28-29)—because mountains and vegetation may have an effect on the strength of the signal received at a particular household.

The Commission has no authority, however, to add additional dB's to the minimum signal strength that qualifies as service. Yet the carriers' Comments (at 18) ask the Commission to add 3 dB to the minimum signal strength, ostensibly to compensate for multipath. But multipath (unlike terrain and clutter) is not a factor that reduces a signal's intensity on the way to a household. Indeed, the satellite parties acknowledge as much: "in multipath interference cases the signal is strong. In a sense, in fact, the signal falls victim to its own strength." Comments of DIRECTV and DISH at 18. Since multipath is not relevant to whether a household receives a signal of the required minimum intensity, the Commission has no authority to consider it in devising a predictive model or to alter the minimum signal intensity set by Congress.

Even if the Commission were permitted to take multipath into account in devising the ILLR model, there would be no need for it to do so. Multipath can be minimized through use of a correctly-oriented and properly adjusted rooftop antenna. MSW Reply Engineering Statement, ¶ 31. Moreover, the Commission found in its *2005 Report to Congress* that "the current generation of digital TV receivers is able to provide service under most multipath conditions that they may encounter." *2005 Report to Congress*, ¶ 77. Receivers on the market today are still better at combating multipath. MSW Reply Engineering Statement, ¶¶ 27-28, 31.

B. The Satellite Parties' Proposal Concerning Land Use and Land Cover Is Too Vague to Warrant Any Consideration

DIRECTV and DISH ask the Commission to change its treatment of land use and land cover by relying on "more granular variables." Comments of DIRECTV and DISH at 16. Beyond a wave of the hand at Google Earth, the satellite parties offer no specifics about how the Commission might do this or what the "more granular" variables might be. Their proposal is therefore too vague to be capable of implementation. Nor do DIRECTV and DISH offer any data showing that such an approach would be more accurate than the current model—which is what the Act requires for any change to the model. 17 U.S.C. § 119(a)(2)(B)(ii)(III).

The satellite parties claim, incorrectly, that the Commission set clutter loss values at zero for VHF because it concluded there are no clutter losses for that band. *Id.* at 16.[31] This untrue claim is surprising, since DISH (then called EchoStar) actually litigated—and lost—the issue in court. *EchoStar Satellite v. Federal Communications Commission*, 457 F.3d 31 (D.C. Cir. 2006). As the Commission has made clear, it set clutter values at zero for VHF not because there

[31] Of course, the Longley-Rice model already includes adjustments for clutter, because it is based on actual field strength measurements in real-world locations—which necessarily reflected the effects of clutter. *2005 Report to Congress*, ¶ 141 (quoting NAB comments).

are no clutter losses, but because to do so would cause the ILLR model to be tilted in favor of underpredictions for VHF stations. *2005 Report to Congress*, ¶ 148 ("using the values adopted by the Commission the ILLR model produces approximately an equal number of over predictions as under predictions.").

C. There Is No Need for Any Adjustment to Address Interference

The carriers, and their engineer, demand that the Commission revise the ILLR model to predict not only the intensity of the desired signal but of interfering signals. Comments of DIRECTV and DISH at 18. But there is no reason to add a new, unnecessary layer of complexity on the ILLR model. As the Commission found after exhaustive research in 2005, modern receivers do an excellent job of defeating interference:

> [T]he DTV receiver products currently on the market generally appear to be performing satisfactorily in rejecting interference. In this regard, we have not seen any obvious problems with the receivers on the market now failing to provide service because of interference. Thus, it appears that market forces are adequately providing for interference immunity.

2005 Report to Congress, ¶ 103.

The Commission is therefore correct (NPRM, ¶ 15) in concluding that there is no need to adjust the ILLR model to address interference.

D. The Commission Has Already Fully Considered, and Correctly Rejected, the Satellite Parties' Proposal to Increase Time Variability from 90% to 99%

As they have repeatedly done, the carriers ask the Commission to change the time variability factor in the digital ILLR model from 90% to 99%. In its *2005 Report to Congress* (at ¶¶ 88-92), the Commission exhaustively reviewed the many reasons why this proposal is unfair and illogical. *First*, signal reception is always statistical and the power and antenna height

adjustments needed to achieve 99% time variability are non-linear. *2005 Report to Congress* at ¶ 91; *see also* MSW Reply Engineering Statement, ¶ 25. *Second*, changing from 90% to 99% time variability would grossly violate the premises of the digital transition, on which broadcasters reasonably relied in building out their digital transmission facilities. *2005 Report to Congress*, ¶ 91. *Finally*, the Commission corrected the misconception that 90% time variability means 10% service outages. In fact, the 90% figure applies only at the very edge of a station's coverage area; closer to the transmitter, the time variability percentage becomes higher. And even for those at the margins of a station's service area, use of higher gain antennas, low-noise pre-amplifiers, and the like can greatly improve a household's service. *2005 Report to Congress* at ¶ 91; *see also* MSW Reply Engineering Statement, ¶ 26.

The satellite parties do not dispute any of this. At most, they falsely characterize the Commission's intention to be faithful to the premises of the digital transition as a case of "the end justifying the means." Comments of DIRECTV and DISH at 17. That is far from true: What the Commission did in the *2005 Report to Congress* was simply to insist on consistency between the basic premises of the digital transition and implementation of a related statute.

The carriers go on to argue that broadcasters should be expected to match the signal availability of 99.7% that DISH is required to achieve if it wishes to offer distant signals again. But that is an apples to oranges comparison. Satellites provide a *line-of-sight* service to receiving dishes; by contrast, television broadcast signals (with the exception of a modest number of locations near the tower) do not. MSW Reply Engineering Statement, ¶ 22. The two methods of transmission are completely incomparable, and the suggestion that over-the-air service should meet the standards of a line-of-sight satellite service is absurd.

The Commission was right in rejecting a 99% time variability standard in its *2005 Report to Congress* (which STELA directs the Commission to follow) and is right in proposing in the NPRM to do so now.

E. The Commission Would Need to Conduct Extensive Engineering Studies Before Drawing Any Conclusions About Building Loss or Other Relevant Factors

The Broadcaster Associations submit that the Commission has no need to develop an "indoor ILLR" model, since the Act continues to assume use of an outdoor, rooftop antenna. (As discussed above, it is impossible to develop an accurate model of indoor reception, given the wide variations among homes.)

But should the Commission ever seek to develop a predictive model for indoor reception, it would need to conduct extensive testing and research to evaluate the relevant factors. To illustrate the need for further research, consider this: Mr. Kurby relies on only two sources for his estimate of building losses—and one of them has a sample size of only 38 sites in two cities, rendering it of virtually no scientific value or statistical validity. *See* Kurby Engineering Report at 4 (citing iBlast Data Broadcasting Field Tests). Since an indoor signal propagation model would necessarily be inaccurate under the best of circumstances, "many years of testing and research would be required before any statistically meaningful data could be analyzed to determine the appropriate factors." MSW Reply Engineering Statement, ¶ 21.

F. The Carriers' Suggestion That "Precise Mapping Tools" Allow Pinpoint Predictions About Individual Households Is Without Any Factual Support

DIRECTV and DISH claim that "due to a number of precise mapping tools, it is possible to define the geometrical complexity of the immediate environment of any U.S. household." Comments of DIRECTV and DISH at 19. Because the carriers provide no factual support

whatsoever for this claim, nor do they identify any of these "precise mapping tools," there is no basis on which the Commission can consider this proposal.

VI. The Suggestion That Different Standards Should Apply to Households with Rooftop Antennas and to Those with Indoor Antennas Is Discriminatory and Unworkable

DIRECTV and DISH's proposal (at 15-16) that different signal strength standards should apply to homes with and without rooftop antennas is discriminatory and unworkable. For example, it would create incentives for households to remove their rooftop antennas. And if (as the carriers suggest) the tester brandished a Google Earth image showing that a rooftop antenna had recently been there, it would lead to disputes about why and when the antenna was removed. Moreover, the carriers' discriminatory policy would create situations in which neighbors receiving identical signal strengths are treated differently, with one person "rewarded" for having only an indoor antenna while their neighbor is "punished" for having a rooftop antenna. The Commission was correct in 2005 when it concluded that "it would be impracticable to establish a regime whereby households with indoor antennas are subject to different signal strength standards that those with outdoor antennas." *2005 Report to Congress*, ¶ 44.

VII. The Carriers' Proposed "Picture Test" Would Be Unreliable and Contrary to the Plain Language of the Statute

DIRECTV and DISH argue that the test for eligibility specified in the Act since 1988—signal intensity—should be replaced or supplemented with a "picture" test. This proposal should be rejected for the same reasons the Commission and the courts have rejected similar proposals in the past.

In a triumph of understatement, DIRECTV and DISH admit that "at first blush, the statute appears to contemplate a strength test." Comments of DIRECTV and DISH at 23. And

they further concede that "this is the manner in which the statute has traditionally been construed." *Id.*

Those two points should have ended the discussion. But the carriers nevertheless argue for a radical reinterpretation of the word "receive" in the phrase "receive a signal of [a certain intensity]," namely that the household must be able to turn the signal into an acceptable picture. *Id.* at 23-24. This is a gross misreading of the plain language of the Act: as is obvious from the text, what has to be "received" is a signal of a specified intensity. And that is exactly what the case law—of which Congress is presumed to be aware in enacting STELA—says. *E.g., CBS Broadcasting Inc. v. EchoStar Communications Corp*., 450 F.3d 505. 511 (11th Cir. 2006) ("eligibility is ultimately based on the ***signal strength a household actually receives***" (emphasis added)); *CBS, Inc. v. PrimeTime 24 Joint Venture,* 9 F. Supp. 2d 1333 (S.D. Fla. 1998) ("Despite PrimeTime 24's contention that clear reception of network signals is of significance, ***the statute does not discuss clear reception***." (emphasis added)).

In any event, a "picture test" would be wholly unreliable. As Meintel Sgrignoli & Wallace explain, there are any number of reasons, unrelated to the nature of the signal arriving over the air, why a particular television may not show a picture. For example, the receiver may be broken or malfunctioning; the TV may be in bad repair; the TV may be an analog model without a digital converter; there may be a wire that has been cut somewhere. MSW Reply Engineering Statement, ¶ 41.

Indeed, the Commission has issued a consumer advisory listing a number of factors that could dramatically affect indoor reception, none of which have anything to do with a station's signal strength. These include: the type of indoor antenna used (many consumers purchase the wrong antenna); placing an indoor antenna in an appropriate location (moving an antenna a few

feet or improper aiming can result in a complete loss of reception); and the presence of other electronic devices in the home (the noise from such devices can have a dramatic impact on reception).[32] It is because of such issues that Congress has, since first enacting the Satellite Home Viewer Act in 1988, consistently insisted on a signal strength test rather than a picture quality test.[33]

VIII. The Carriers' Proposed Indoor Testing Model Is Fatally Flawed

The satellite carriers' engineer, Mr. Kurby, proposes a procedure for conducting indoor testing. Kurby Engineering Statement at 6-8. His procedure is fatally flawed for numerous reasons:

1. **Which TV?** Mr. Kurby says that the measurement should be taken in the room in which "the TV" is intended to be used. But as the Broadcaster Associations demonstrated in their Comments, most American households have multiple TVs. As a result, there would be ample opportunity for gamesmanship, with a household directing the tester to the TV set in the worst location for reception.

2. **No calibration requirement**. Mr. Kurby recommends use of a half-wave dipole antenna. But there is a vast range of different types of half-wave dipoles; an inexpensive set of rabbit ears may qualify. For testing purposes, however, only a professional, calibrated antenna should be used. Use of an uncalibrated antenna would lead to unreliable and inconsistent results and would also be contrary to the Commission's existing standards for testing. 47 C.F.R.

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[32] FCC Website, *DTV Consumer Tips*, available at http://www.dtv.gov/consumertips.pdf (visited Sept. 1, 2010).

[33] Although the carriers claim (at 4-5) that reception of digital signals is an all-or-nothing matter, in fact there is a range of digital artifacts, such as pixelation, that can affect the quality of a picture from a digital signal. MSW Reply Engineering Statement, ¶ 40.

§ 73.686(d)(2)(i) (requiring "calibrated instrument" and careful documentation of calibration). MSW Reply Engineering Statement, ¶ 33.

3. **Impractical antenna choice for low-VHF stations**. One of the many impracticalities of Mr. Kurby's testing protocol is that, for low-VHF stations, a half-wave dipole antenna must be very long. For Channel 2, for example, a half-wave dipole must be 8.6 feet long. MSW Reply Engineering Statement, ¶ 33. To say that it would be awkward to maneuver a nearly nine-foot-long device in a small living room would only begin to capture the difficulties.

4. **Antenna height**. Mr. Kurby suggests a height of one meter for testing. As Meintel Sgrignoli & Wallace point out, however, a height of one meter may be effectively on the floor of the house, since most homes are built on foundations that place them above ground. MSW Reply Engineering Statement, ¶ 23.

5. **Mispointing of antenna**. The DIRECTV/DISH/Kurby testing proposal calls for antennas to be improperly oriented in two different ways. *First,* the tester is told to "orient the measurement antenna in the direction of the first transmitting station to be measured." Kurby Engineering Statement at 6. But it may be possible to obtain a stronger signal by pointing somewhere other than directly at the station's tower. MSW Reply Engineering Statement, ¶ 38. *Second,* DIRECTV/DISH/Kurby call for leaving the antenna in the same orientation for testing other stations, rather than adjusting the antenna to achieve the strongest possible signal from each station. *Id.* This would unfairly penalize every station other than the first to be tested. Since the Commission assumed use of rotors for *outdoor* antennas when necessary to obtain the

strongest signal,[34] it should assume that testers will make the minimal effort needed to adjust an *indoor* antenna to achieve the strongest signal from each station.

Finally, the notion of testing indoors is directly contrary to STELA's command that, in conducting this rulemaking, the Commission "shall seek ways to minimize consumer burdens associated with on-location testing."[35] The proposal made by the carriers—and for that matter any proposal for indoor testing—would fly in the face of that command by greatly *increasing* the burdens on consumers associated with on-location testing. Most obviously, the consumer will need to be at home at the time of the test, unlike with an outdoor test that can be done whether or not anyone is at home. As anyone who has ever hired a contractor knows, that is likely to entail considerable waiting around for the tester to show up. And once the tester does appear, the homeowner will need to invite a complete stranger into his or her home to carry out the test, who will be bringing in large pieces of equipment that may damage items in the house. Indoor testing would therefore represent a giant step backwards in terms of "consumer burdens," in violation of STELA's express command.

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Viewed in their entirety, the satellite carriers' engineering proposals for using indoor antennas to predict signal intensity and to conduct signal strength tests indoors are, at various turns, completely impractical, naïve, misguided, inconsistent with sound engineering practices, previously considered and rejected by the courts and the Commission, and violative of statutory

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[34] *2005 Report to Congress*, ¶ 42 ("As supported by the pattern of antenna rotor use in Putnam County, Indiana that is described in the record of our Inquiry, we conclude that consumers will obtain and use rotors if they need them.").

[35] STELA, § 204(b)(2), amending § 339(c)(3)(B) of the Communications Act, codified at 47 U.S.C. § 339(c)(3)(B).

requirements. If anything, these proposals illustrate, in stark terms, why an outdoor rooftop antenna, and only an outdoor rooftop antenna, can be used to predict and test for signal strength.

Conclusion

For the foregoing reasons, the Broadcaster Associations recommend that the Commission implement the Notice and Further Notice of Proposed Rulemaking in the manner set forth herein.

Respectfully submitted,

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