

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of

Cable Television Technical and Operational  
Requirements

MB Docket No. 12-217

**REPLY COMMENTS OF THE NATIONAL ASSOCIATION OF  
TELECOMMUNICATIONS OFFICERS AND ADVISORS**

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## SUMMARY

The National Association of Telecommunications Officers and Advisors (“NATOA”) submits these reply comments to reiterate that there is a demonstrable need for the Commission promptly to adopt digital performance standards and periodic testing requirements.

NATOA strongly disagrees with industry commenters who suggest there should be no need for digital performance standards, periodic testing or reporting requirements. The Commission has the exclusive authority to issue technical standards, and long ago recognized the need for such requirements in an analog world. The transition to a digital world does not eliminate this need; it simply raises different performance issues that require different standards and testing requirements.

Local officials cannot adequately address digital service quality issues at the local level if the Commission does not adopt new rules. It is the Commission’s statutory duty to “establish minimum technical standards” and to “update such standards periodically to reflect improvements in technology.” 47 U.S.C. § 544(e). Without federal standards and testing requirements for digital technologies, local authorities have limited enforcement tools to address performance problems. For example, even if local tests find that a cable system does not meet the SCTE 40 industry standard, local authorities have limited options to force the operator to correct the problem. Thus, maintaining requirements to regularly test and report results benefits consumers, helps to ensure that systems are working to their certification standards and that signal quality and interference problems are addressed proactively, and provide local officials with a comprehensive database of documented technical performance data to assist with enforcement of federal standards. Design certification is not a substitute for actual performance testing and reporting.

While the industry would prefer no rules, the National Cable and Telecommunications Association did propose some modifications to the Commission's draft rules. These reply comments identify some instances where NATOA agrees with the NCTA's proposed modifications. Overall, in NATOA's view, the actual disagreements are relatively minor and should not delay issuance of the new rules.

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**I. INTRODUCTION**

The National Association of Telecommunications Officers and Advisors (“NATOA”) submits these reply comments to reiterate that there is a need for regular periodic testing even in a digital era, and to urge the Commission promptly to adopt testing standards for digital technologies. NATOA strongly disagrees with industry commenters who suggest there should be no testing and reporting requirements. Maintaining requirements to regularly test and report results benefits consumers. Such requirements help to ensure that systems are working to their certification standards and that signal quality and interference problems are addressed proactively, particularly as cable operators have consolidated and upgraded once separate systems and are expanding the services provided over those systems. Testing and reporting requirements also provide local officials with the documentation to assist with enforcement of federal standards; uniform qualitative cable system technical performance information that many jurisdictions have difficulty obtaining from the operators in the absence of mandated disclosure requirements. Local officials cannot adequately address digital service quality issues at the local level if the Commission does not exercise its exclusive jurisdiction to establish new rules.

We urge the Commission to adopt testing and reporting requirements substantially as proposed by NATOA in the opening round. The National Cable and Telecommunications Association (“NCTA”) also provided the Commission with proposed revisions to the draft rules. NATOA reviewed NCTA’s proposals and NATOA representatives discussed them and other issues with NCTA representatives prior to finalizing this filing. These reply comments identify some of the areas where NATOA agrees with NCTA’s approach. While some in industry would prefer no rules, in NATOA’s view, the disagreements over what any technical rules should say are relatively minor and should not delay issuance of the new rules.

## **II. THERE IS AMPLE EVIDENCE DEMONSTRATING NEW RULES ARE BOTH NECESSARY AND DESIRABLE**

As anticipated in NATOA’s Comments,<sup>1</sup> some industry commenters have suggested there is no demonstrated need for digital technical standards, particularly for all-fiber and non-QAM networks.<sup>2</sup> To the contrary, the record demonstrates that new rules are both “necessary [and] desirable.”<sup>3</sup> And the Commission has a statutory duty to adopt appropriate technical standards.

### **A. Customers Have Reported A Broad Range of Signal Quality Problems on Digital Systems**

Contrary to industry claims, consumers are lodging complaints about the quality of their digital cable service. Local jurisdictions around the country receive hundreds of complaints

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<sup>1</sup> NATOA Comments at 4.

<sup>2</sup> Verizon Comments at 3-8; CenturyLink Comments at 1-9; OPASTCO and NTCA Comments at 2-5.

<sup>3</sup> Notice at ¶ 5 (quoting 1992 Order at ¶ 17).

annually. And these are likely only the tip of the iceberg.<sup>4</sup> Some illustrations of the types of complaints received by local jurisdictions include:

- Television picture blanking
- Frozen pictures
- Intermittent pixelation or tiling
- Distorted pictures
- Loss of color
- Loss of audio
- Loss of audio-video synchronization
- Signal leakage
- Signal interference
- Complete signal loss
- Sporadic or unreliable television signal
- Poor reception
- Not receiving all channels
- Not receiving service on one television within a multi-television household

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<sup>4</sup> The Commission should assume that signal quality problems are underreported by consumers. The Commission is unlikely to hear directly from consumers. Complaints about the quality of television signals delivered over digital systems are made first to the cable operators themselves under complaints procedures established by cable operators, and then to local franchising authorities, and only as a final avenue may the complaint be referred to the Commission. *See* 47 C.F.R. § 76.1713 and Note 1 thereto. Customers do not always complain even though they are experiencing picture quality problems. Sometimes consumers are deterred by the fact that the service provider may charge them for the service call. For example, Section 7(a) of Time Warner Cable’s Residential Services Subscriber Agreement states, in relevant part: “Depending on the circumstances, we may charge you for service calls. For more information, please contact your local TWC office.” <http://www.timewarnercable.com/en/about-us/legal/terms-conditions-policies/subscriber-agreement-english.html> (last accessed January 25, 2013). Most providers have similar provisions and policies.

- Service outage or loss of signal for all channels
- Storm-related signal outages

A given episode may last for minutes or hours. Some subscribers' problems have continued over several weeks' time, despite cable operators' attempts to remedy the problems; others have continued for months or years. Actual video illustrating some of the technical problems experienced on digital cable systems is available to be viewed at the following link:

<http://www.natoa.org/digital-signal-issues.html>

### **B. The Commission Has a Statutory Mandate to Adopt New Rules**

The existence of consumer complaints demonstrates the practical need for updated rules, but the simple fact is that the Commission has a statutory mandate to adopt them to address digital technology. The Communications Act is crystal clear on this mandate: “Within one year after October 5, 1992, the Commission *shall* prescribe regulations which establish minimum technical standards relating to cable systems’ technical operation and signal quality. The Commission *shall* update such standards periodically to reflect improvements in technology.”<sup>5</sup> (emphasis added). No commenter disputes that there have been “improvements in technology” that have made the current analog rules outdated. Rather, some misread the implications of these technological developments and suggest they obviate the need for rules.<sup>6</sup> But that approach is contrary to the statutory mandate which *requires* the Commission to update its standards to reflect these improvements.

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<sup>5</sup> 47 U.S.C. § 544(e).

<sup>6</sup> See e.g., Verizon Comments at 2-4.

### C. Competition Does Not Obviate the Need for Digital Technical Standards and Regular Testing

Some industry commenters allege that competition in the video marketplace is widespread<sup>7</sup> and switching providers is without cost to consumers,<sup>8</sup> and thus, this competition will take care of digital quality issues.<sup>9</sup> However, there is no concrete evidence that video competition from multichannel video programming distributor (“MVPD”) or online video distributors (“OVD”) competitors, to the extent it does exist, has improved signal quality offered by MVPDs. Mere marketing *claims* of “superior quality”<sup>10</sup> are not a substitute for concrete standards and evidence of *actual* quality. The illustrative complaints data discussed above demonstrates this amply.

Moreover, this characterization of the video market both exaggerates the availability of competitive alternatives, and ignores the very real and well-documented inconvenience and costs of switching providers.

Truly competitive alternatives are not as plentiful as commenters suggest. Wireline video service competition is available in only about a third of the country.<sup>11</sup> Most programming is not

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<sup>7</sup> Verizon Comments at 6 (DBS is available to “98 percent” of households and a second wireline competitor is available to “40 million households”).

<sup>8</sup> *Id.* at 7 (“consumers can switch to another provider as easily as pulling out their iPad, turning to free, over-the-air broadcasting, or logging on to Netflix.”).

<sup>9</sup> *Id.*

<sup>10</sup> Verizon Comments at 7 (pointing to a Commission report that noted MVPDs make advertising claims of superior quality); NCTA Comments at 6 (pointing out that cable operators routinely publicize their video quality to customers to avoid losing customers to competitors).

<sup>11</sup> The majority of homes do not have a choice of wireline MVPDs. Table 2 of the Commission’s Fourteenth Video Competition Report (on page 18) indicates the percentage of homes with access to two *wireline* MVPDs (i.e., at least four separate MVPDs) has only recently grown to a significant figure—from 4.7 percent in 2006 to 32.8 percent in 2010 (42.9 million homes). The same table indicates **65.7 percent of homes** only have access to the incumbent cable operator or DBS (85.9 million homes), and 1.5 percent of homes (2 million homes) have access to no *wireline* MVPD at all.

available on multiple platforms. Over-the-air broadcasting offers only a handful of channels and requires reception of the signal using an antenna which may not be possible in the consumer's area. There are often practical constraints on antenna or satellite dish placement, particularly in urban environments and multi-tenant facilities. A live sporting event will not be available from an OVD such as Netflix. Indeed, the Commission found in its Fourteenth Video Competition Report that competition from OVDs such as Netflix is a *complement*, not a *replacement* for MVPD service.<sup>12</sup>

Moreover, switching providers is hardly “easy” or “cost-free”.<sup>13</sup> The Commission's own research shows that there are substantial switching costs that deter consumers from changing providers.<sup>14</sup> These include *transaction costs* (e.g., installation fees; time and inconvenience required to research alternatives which typically are not be homogeneous), *learning costs* (to become comfortable with the new service), and *artificial or contractual costs* (such as early termination fees that come with long-term contracts).<sup>15</sup> Industry research also shows that

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<sup>12</sup> *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Fourteenth Report, MB Docket No. 07-269, FCC 12-81 (re. July 20, 2012) (14th Video Competition Report) at ¶ 240. In a more recent filing Netflix, continues to maintain that its service is still a complement, not a substitute. See *Notice of Inquiry for the 15th Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 12-203, FCC 12-80 (re. July 20, 2012), Netflix Comments at 6-7 (“...Netflix more closely resembles cable channels such as HBO rather than a substitute for an entire MVPD service.”) (filed Sept. 10, 2012).

<sup>13</sup> New York City Comments at 2 (describing the monetary and other costs of switching providers).

<sup>14</sup> Wise and Duwadi, *Competition between Cable Television and Direct Broadcast Satellite – It's More Complicated than You Think*, Media Bureau Staff Research Paper No. 2005-1, International Bureau Working Paper No. 3 (January 2005) at 1, available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-255869A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-255869A1.pdf), (last accessed January 25, 2013) (“Direct Broadcast Satellite (“DBS”) is often considered a substitute for basic cable service, but current cable subscribers may face substantial switching costs to move from cable to DBS services.”).

<sup>15</sup> *Id.* at 6-8, 21.

bundling of multiple services, a common practice in the video service industry, reduces churn,<sup>16</sup> which is just another way of saying bundling also deters switching.

Finally, as discussed further below, uniform technical performance standards and periodic test reports generate data that assist local authorities with complaint resolution, monitoring performance, and other regulatory responsibilities. Therefore, there is no basis in the record for making a determination that competition has eliminated all technical quality issues nor obviated the need for enforceable standards supported by regular testing. Decades of periodic testing under the analog technology confirm the merit of retaining the Commission's requirements for testing under federally-defined performance parameters. This same methodology needs to be modernized to embrace the digital world.

#### **D. Regular Mandated Testing Remains Necessary**

NCTA suggests that compliance with digital standards should be enforced through “certifications and complaints” rather than through the conduct and reporting on periodic tests.<sup>17</sup> NATOA agrees that certifications may be appropriate to demonstrate compliance with *some* standards, but certification cannot and should not replace *all* periodic proof-of-performance testing and reporting.

Some commenters suggest they already closely monitor system performance and generate a lot of data as a result making further testing superfluous.<sup>18</sup> In the experience of NATOA's members, cable operators do not willingly share technical performance data unless they have to.

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<sup>16</sup> Jeffrey Prince, “The Dynamic Effects of Triple Play Bundling in Telecommunications” Time Warner Cable Research Program on Digital Communications (Winter 2012) at 26. [http://www.twcresearchprogram.com/pdf/TWC\\_PrinceReport.pdf](http://www.twcresearchprogram.com/pdf/TWC_PrinceReport.pdf) (last accessed January 25, 2013).

<sup>17</sup> NCTA Comments at 3-7.

<sup>18</sup> See e.g., NCTA Comments at 5-6.

A certification and complaints procedure will not provide data for enforcement, nor will it create an adequate record of compliance or non-compliance.

The Commission recognized back in 1972 that periodic testing serves numerous purposes beneficial to the public such as requiring a measurement and monitoring schedule that would reduce the incidence of malfunction by encouraging systems to institute systematic procedures for checking operations, and performing preventative maintenance, and by providing readily available data from every system that will be useful in resolving service complaints should the performance ever be questioned.<sup>19</sup> Twenty years later, the Commission reaffirmed the need for regular testing when it issued updated standards and testing requirements.<sup>20</sup> And today, there is no reason to relieve operators of the obligation to regularly document compliance with the Commission's performance standards. Local franchising authorities are preempted from setting their own standards, but are relied as the first line of enforcement and complaint resolution.<sup>21</sup> Without current documentation provided by a regular testing regimen prescribed by the Commission, local authorities will not have readily available data to determine whether or not an operator is maintaining compliance with the Commission's performance standards. This data serves a variety of purposes for local authorities including, assisting in complaint resolution,

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<sup>19</sup> 36 F.C.C. 2d 143, 199-200 (FCC 1972).

<sup>20</sup> 7 FCC Rcd 2021 (FCC 1992).

<sup>21</sup> *Id.* at 2035 (“We continue to believe, as we stated in our Notice, that the local franchising authorities are the proper initial locus of any complaint about the quality of technical service provided by a cable operator. Local authorities are most familiar with the local system operation and plant, as well as any local factors which could affect the resolution of a problem.”)

evaluating the need to bring “intractable problems” with compliance to attention of the Commission for enforcement,<sup>22</sup> and evaluating franchisee compliance at the time of renewal.<sup>23</sup>

**E. Test Locations Should Continue to Cover Significant Franchise Areas and Distribution Points**

The Commission’s proposed amendment to Section 76.601(b)(1) would require at least one test point in each local franchise area.<sup>24</sup> NATOA supports this type of requirement. NCTA opposes this requirement on the basis that the number of test points (and the costs of testing) would increase under this requirement because individual cable systems serve multiple local franchise areas.<sup>25</sup> Verizon states its system should be tested (if at all) only at regional VHOs and testing every franchise area would be “redundant”.<sup>26</sup>

NATOA believes its proposal of one test site per local franchise area greater than 1,000 subscribers<sup>27</sup> should not result in a significant increase in the number of test points. NCTA does not oppose maintaining the current rule that requires testing of cable television systems that serve 1,000 or more subscribers. Likewise, there is no dispute with the requirements in the current rule that test points be geographically dispersed<sup>28</sup> and that test points should increase incrementally based on the number of subscribers (one test point per additional 12,500 subscribers). The

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<sup>22</sup> *Id.* at 2023 (“[W]e proposed requirements for proof-of-performance testing, and also for resolving complaints primarily at the local level, involving the Commission only in the case of intractable problems that cannot be resolved locally.”)

<sup>23</sup> The factors considered at the time of renewal include “the quality of the operator's service, including signal quality, response to consumer complaints...” 47 USC § 546(c)(1)(B).

<sup>24</sup> Notice at ¶ 21.

<sup>25</sup> NCTA Comments at 15-17.

<sup>26</sup> Verizon Comments at 12.

<sup>27</sup> NATOA Comments at 7-8.

<sup>28</sup> Section 76.601(b)(1) references tests points should be “widely separated,” “balanced to represent all geographic areas served by the cable system,” and “at least one-third of test points must be representative of subscriber terminals most distant from the cable system”.

Commission suggests that the overlay of the “one test site per local franchise area” requirement follows from the Commission’s recognition that local authorities have a closer relationship with cable operators and cable customers,<sup>29</sup> and as discussed earlier, remain the first line of defense in addressing enforcement and performance issues. A primary purpose of this requirement, in NATOA’s view, is to ensure that all significant franchise areas are tested so that local authorities have the data readily available for the regulatory purposes discussed earlier in these reply comments.

As to Verizon’s suggestion that testing at the VHO would be sufficient, NATOA disagrees. Because there are electronics in the wire centers, this could produce problems with signal quality that would not show up at the VHO level. Testing at locations within each wire center or hub area therefore are necessary to catch problems that may arise from electronics within the hub or wire center and which are entirely under the control of the operator. Thus, NATOA continues to believe that Section 76.601(b)(1) needs to be updated to reflect new types of distribution facilities for the reasons noted in NATOA’s comments.<sup>30</sup>

#### **F. Testing a Variety of Channels is Important**

NCTA suggests it does not matter which QAM channel is tested because “physical layer” transmission characteristics operate independent of the content carried on the channel.<sup>31</sup> While it is true that the content is not relevant, that is not the point of testing multiple channels. The point of testing multiple channels is to test variability that may be caused by (1) different delivery

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<sup>29</sup> Notice at ¶ 21.

<sup>30</sup> NATOA Comments at 20.

<sup>31</sup> NCTA Comments at 14-15.

mechanisms and headend equipment, and (2) because different channel frequencies on the cable distribution system can be subject to greater interference.<sup>32</sup>

Differing video signal sources (e.g., over-the-air broadcast, public, educational and governmental (“PEG”), satellite networks, cable system local origination (“LO”)) generally are processed and transported to and within the cable operator’s headend in different manners and using differing routes that may impact the signal quality delivered on the cable system. For example, PEG channel content is often obtained through a unique mode of transport and in many communities multiple PEG channels are sourced from multiple locations. The highly viewed broadcast channels are typically delivered to the cable headend over-the-air, yet another mode of delivery. Other distribution transport issues that are channel-specific include interference from over-the-air FM broadcast stations, local broadcast television and/or other over-the-air radio/wireless services. NATOA proposed including testing of these types of channels. Limitations with headend equipment may affect the delivery of different types of channels, hence the rationale for testing different types of channels such as high definition and ultra high definition.

For these reasons, NATOA proposed changes to Section 76.601(b)(3) requiring operators to test channels with programming from various sources in proportion to the existence of each type of channel in the cable system, e.g., local broadcast television, PEG, cable programming service channels, standard definition, high definition, etc. In short, the rationale for requiring a variety of channels does not relate to content but relates to other factors that could affect the signal quality experienced by consumers. NATOA also proposed that Section 76.601(b)(3)(i) be added to identify the same days and times for the testing of “signal level variations” for digital

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<sup>32</sup> NATOA Comments at 10-11.

channels as currently appear in Section 76.601(b)(2)(i) for the testing of “visual signal level” for NTSC channels.<sup>33</sup>

### **G. Recordkeeping Should Be Modernized**

NCTA complains that recordkeeping must be simplified and reduced, in part questioning whether anyone views the records kept in local offices.<sup>34</sup> Today, for a local regulator to view records, they may need to make an appointment, travel up to 30 miles or more (as local offices are closed and consolidated to regional locations), and may be subject to copying costs or other fees. Electronic access could eliminate those kinds of barriers to access. There were numerous other suggestions for modernizing the recordkeeping and improving access. NATOA proposed digital format records be kept to reduce the burden both on the cable operators and on the public, and to increase the availability of these records to the public.<sup>35</sup> Similarly, Verizon proposed that electronic access to records be via the Internet or private company network.<sup>36</sup> New York City proposed that test results be filed with the Commission and made available on the Commission’s website.<sup>37</sup> These are all reasonable ways of modernizing recordkeeping and improving access. The important point is that records should be maintained for a meaningful period of time, and made readily available to regulators.

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<sup>33</sup> NATOA Comments at 21.

<sup>34</sup> NCTA Comments at 17.

<sup>35</sup> NATOA Comments at 16.

<sup>36</sup> Verizon Comments at 13.

<sup>37</sup> NYC Comments at 4.

### **III. TECHNICAL STANDARDS (SECTION 76.605(c) and (e))**

#### **A. Proposed Modifications to Section 76.605(c)**

##### **1. Table 4, Items 1 and 2**

NATOA agrees with NCTA's suggestion that Items 1 and 2 would be inappropriate to include in the testing requirements and that they are appropriate for operator certification, as proposed in NCTA's version of Section 76.605(c)(1).

##### **2. Table 4, Item 3**

NATOA agrees with NCTA's suggestion that this item should not be mandatory for purposes of digital technical standards.

##### **3. Table 4, Items 4, 5, 6, 7, 12, 14**

NATOA agrees with NCTA's suggestion that these items should only reference digital parameters.

##### **4. Table 4, Item 11**

NATOA agrees with NCTA that the manufacturer's phase noise specifications for the modulators and microwave equipment should be the standard used to meet this measurement requirement.

### **IV. OTHER REQUESTS FOR COMMENT IN THE NOTICE**

#### **A. Qualitative Signal Quality Measures, Including Use of Set Top Boxes Are Necessary**

Industry commenters are opposed to including qualitative measures in the testing, including the use of set top boxes.<sup>38</sup> NATOA supports development of such measures and

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<sup>38</sup> NCTA Comments at 10-13; Verizon Comments at 10-11.

offered suggestions for such tests, as noted in its comments.<sup>39</sup> As New York City points out in its comments, set top boxes are “ubiquitous” and ultimately what really matters is the subscriber experience.<sup>40</sup> Ignoring this aspect would miss the point of the whole exercise.

### **B. Industry Standards for Signal Quality in Non-QAM Systems Are Needed**

Verizon suggests that there is no point to taking a case-by-case approach to establishing technical standards for non-QAM systems because providers would only propose what they are already doing and having to provide test results would just add costs of processing the paperwork.<sup>41</sup> NATOA continues to agree with the Commission’s suggestion that standards can be developed on a case-by-case basis, with the caveat, expressed in its comments, that the development of those standards should include input from the local franchising authorities.<sup>42</sup>

### **C. Signal Leakage Monitoring Remains Necessary**

Verizon suggests that it is no longer necessary to continue to monitor signal leakage at all.<sup>43</sup> NATOA strongly disagrees. Cable systems have expanded their use of spectrum to the upper frequencies that can affect critical uses in the home such as cell phones. The full spectrum of frequencies transported within the cable system needs to be monitored.<sup>44</sup> NCTA agrees that monitoring is important but suggests that it could be done in a less burdensome way.<sup>45</sup> NATOA understands that current equipment cannot take all relevant measurements and believes a

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<sup>39</sup> NATOA Comments at 17-19.

<sup>40</sup> NYC Comments at 4-5.

<sup>41</sup> Verizon Comments at 11.

<sup>42</sup> NATOA Comments at 14-16.

<sup>43</sup> Verizon Comments at 13-16.

<sup>44</sup> NATOA Comments at 19-20.

<sup>45</sup> NCTA Comments at 18-25.

transition period would be appropriate as follows: Any system conducting flyovers to satisfy CLI requirements should be required to do measurements at aviation frequencies and concurrently in the 750 MHz. frequency range. This will allow additional information on higher frequency leakage and its effects to be accurately measured and evaluate need for ground based measurement requirements without immediately implementing new equipment and higher costs to cable system operators. Rather, new equipment on trucks can be phased in as old equipment needs to be replaced.

## V. CONCLUSION

For the reasons indicated above, the Commission should adopt the proposed rules, with the changes described in NATOA's filings.

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Respectfully submitted,

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