

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

IN THE MATTER OF

IMPLEMENTATION OF THE COMMERCIAL
ADVERTISEMENT LOUDNESS MITIGATION
(CALM) ACT

MB Docket No. 11-93

COMMENTS OF DIRECTV, INC.

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SUMMARY

DIRECTV, Inc. commends both Congress and the Commission for their efforts to keep the volume of commercial advertisements comparable to the volume of the accompanying programming. Even before passage of the CALM Act, DIRECTV was working informally with its program suppliers to achieve this same end, consistent with ATSC Recommended Procedure A/85 (“RP A/85”). Implementation of the CALM Act can only be expected to accelerate that process, to the benefit of viewers across the country.

However, in implementing the statute, the Commission must bear in mind the practical limitations of those who would be subject to its requirements. This is particularly important in implementing the statutory safe harbor available to those entities that install, utilize, and maintain in a commercially reasonable manner the equipment and associated software needed to comply with the regulations. The Commission has tentatively concluded that an MVPD may rely upon this safe harbor for commercials it inserts into a programming stream itself, but not for commercials it passes along at the loudness level set by an upstream programmer—unless the MVPD checks the loudness of each commercial, adjusts it in real time, and maintains records of its actions. Such an interpretation would essentially render the safe harbor a dead letter for MVPDs.

No equipment now exists that can identify commercials among other content, measure the loudness of such commercials, and adjust the loudness level in real time before the programming is transmitted to viewers. Thus, under the Commission’s tentative interpretation, a programmer that used appropriate equipment but nonetheless inserted a commercial at an incorrectly coded loudness setting would be protected by the safe harbor, while an MVPD whose equipment operated properly to send that programming stream along could be liable for a

violation. Congress could not have intended such an outcome. DIRECTV submits that a more appropriate implementation of the statute would recognize these facts, and allow an MVPD the benefit of the safe harbor to the extent it has installed, utilized, and maintained equipment necessary to implement a commercially reasonable process for matching the transmitted loudness to the settings in the programming stream as received.

In addition to the safe harbor, DIRECTV also supports the Commission's consideration of a contractual compliance strategy, wherein MVPDs include provisions in their carriage agreements that require programmers to comply with RP A/85. However, DIRECTV sees no reason not to allow MVPDs to rely upon certifications from their programmers to demonstrate compliance in this context, just as they do in the context of closed captioning and children's television rules (which, contrary to the *Notice's* assertion, are not meaningfully different from the CALM Act regime). In addition, MVPDs should not be responsible for loudness issues in broadcast programming they passively retransmit. Broadcasters themselves are subject to the CALM Act's requirements, and are in the best position to comply with them.

At present, RP A/85 applies only to digital television systems that use the AC-3 audio codec. However, DIRECTV anticipates that ATSC will soon adopt proposed Annex K, which would provide guidance for loudness levels on digital television systems that use non-AC-3 audio codecs. Applying that guidance, DIRECTV does not anticipate significant issues in measuring and setting loudness levels for such programming, including legacy content. Given potential complications arising from application to various transmission platforms, future amendments of RP A/85 should be subject to notice and comment before becoming effective under the Commission's rules.

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	i
BACKGROUND	3
I. THE PROVISIONS AND LIMITATIONS OF ATSC RECOMMENDED PROCEDURE A/85	3
II. DIRECTV’S APPROACH TO LOUDNESS ISSUES	5
A. DIRECTV’s Intake and Processing of Programming.....	6
B. DIRECTV Monitoring of Loudness Issues	7
C. DIRECTV Insertion of Commercials	8
ARGUMENT	9
I. THE SAFE HARBOR SHOULD APPLY TO MVPDS THAT INSTALL, UTILIZE, AND MAINTAIN APPROPRIATE EQUIPMENT TO PASS THROUGH AC-3 METADATA OR SET TARGET LOUDNESS LEVELS.....	9
II. THE COMMISSION SHOULD PERMIT MVPDS TO DEMONSTRATE COMPLIANCE THROUGH CERTIFICATION	13
III. OTHER ISSUES	15
A. Special Considerations Applicable to Broadcasters	15
B. Transcoded and Legacy Content.....	16
C. Updating RP A/85.....	16
D. Gain Adjustment to Avoid Inaudible Audio	17
CONCLUSION	19

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In this proceeding,¹ the Commission proposes rules to implement the Commercial Advertisement Loudness Mitigation (“CALM”) Act.² That Act directs the Commission to incorporate a recommended procedure (known as “RP A/85”) that is designed to prevent television commercial advertisements from being transmitted at louder volumes than the program material they accompany.³ For some time now, DIRECTV, Inc. (“DIRECTV”) has been working with its programming suppliers to ensure that the volume of commercial advertisements is comparable to the volume of the rest of the programming stream. Accordingly, DIRECTV welcomes Congress’ action, and believes that prompt implementation of the CALM Act by the Commission will serve the viewing public by eliminating the all-too-familiar intrusion of loud commercials.

¹ See *Implementation of the Commercial Advertisement Loudness Mitigation (CALM) Act*, Notice of Proposed Rulemaking, FCC 11-84 (rel. May 27, 2011) (“*Notice*”).

² The Commercial Advertisement Loudness Mitigation Act (“CALM Act”), Pub. L. No. 111-311, 124 Stat. 3294 (2010) (codified at 47 U.S.C. § 621).

³ CALM Act, § 2(a).

However, such implementation must also recognize the practical and technological limitations of multichannel video programming distributors (“MVPDs”). DIRECTV cannot determine in real time what part of a programmer’s signal is a commercial rather than long-form content, nor can it monitor and correct for errors in the metadata provided to it in real time. To DIRECTV’s knowledge, no equipment exists that would perform these functions. While MVPDs can and do make periodic and systemic adjustments to the loudness of an entire channel or group of channels, in real time they can do no more than faithfully pass along the programming streams they receive – including any volume disparities received from the programming source. We agree that an MVPD should be accountable for accurately calibrating the loudness of the commercials it actually inserts into its transmissions, for matching the transmitted dialnorm metadata to what is received, and for periodic channel-by-channel loudness adjustments. It is inequitable, however, to hold that MVPD liable for programming characteristics that are beyond its control.

DIRECTV thus respectfully disagrees with the way the Commission tentatively intends to apply the CALM Act’s “safe harbor,” which relieves liability for entities that install, utilize, and maintain appropriate equipment in a commercially reasonable manner.⁴ The Commission would apply the safe harbor to an MVPD’s transmission of programmers’ content only if it deploys equipment to “properly measure the loudness of the content for which the safe harbor is claimed and ensure that dialnorm metadata is encoded correctly before transmitting the content to the consumer.”⁵ Because no such equipment exists, such an interpretation would render the safe harbor meaningless for MVPDs (other than to the extent they insert their own commercials). This interpretation would leave MVPDs liable for passing through errors created by

⁴ CALM Act, § 2(c).

⁵ *Notice*, ¶ 20.

programmers, while allowing the programmers themselves to enjoy the benefit of the safe harbor.

A better approach would be to interpret the safe harbor in the manner contemplated by RP A/85: as requiring MVPDs to install, utilize, and maintain the equipment necessary to support a commercially reasonable process for (1) passing along metadata, including loudness settings, in programming that contains such metadata; or (2) periodically determining the long-term average loudness of a programming stream that does not include such metadata and calibrating it to the MVPD's target loudness level. This, along with a few other suggestions made herein, would more appropriately implement the statutory mandate across the various platforms to which it applies.

BACKGROUND

I. THE PROVISIONS AND LIMITATIONS OF ATSC RECOMMENDED PROCEDURE A/85

The Recommended Procedure upon which the CALM Act relies was developed in the context of broadcast programming, as an outgrowth of the conversion to digital television. Under the standard long-used for analog broadcast transmissions, limitations were imposed on dynamic range to “smooth” the volume of commercial-to-programming transitions.⁶ The ATSC digital television standard, in contrast to the analog standard, has over 30 times as much dynamic range. Thus, as explained in RP A/85, “[w]ith digital television’s expanded aural dynamic range (over 100 dB) comes the opportunity for excessive variation in content when DTV loudness is not managed properly.”⁷

⁶ Notice, ¶ 3 n. 12 (citing ATSC Letter by Mark Richer, ATSC President, and attached “Executive Summary of the ATSC DTV Loudness Tutorial Presented on February 1, 2011” (dated Apr. 8, 2011)).

⁷ Advanced Television System Committee, Inc., *ATSC Recommended Practice: Techniques for Establishing and Maintaining Audio Loudness for Digital Television*, Document A/85:2009, § 1.1, at 7 (Nov. 4, 2009) (“RP A/85”).

In order to address this situation, RP A/85 adopts a recommended loudness measurement standard developed by the International Telecommunications Union that assigns a numerical value to the perceived loudness of the content (stated in units of “LKFS,” which are equivalent to decibels).⁸ That numerical value, in turn, can be encoded into the AC-3 audio stream used for digital broadcast television as a metadata parameter called “dialnorm” (short for Dialog Normalization). If the dialnorm parameter has been correctly set for both short-form content (*i.e.*, commercials) and long-form content (*i.e.*, program-related material), the AC-3 audio decoder in the consumer’s receiver will automatically adjust the volume to eliminate volume spikes at the transition between the two, yet still allow the full range of dynamic range for a more complete audio/visual experience.

One necessary assumption underlying RP A/85 is that the dialnorm value will be encoded accurately and carried with the AC-3 audio content.⁹ This assumption is consistent with the requirements imposed by the Commission’s rules for over-the-air digital broadcast television transmissions (incorporating the ATSC A/53 Digital Television Standard).¹⁰ As the Commission recognizes, “the ATSC A/85 RP, like most ATSC documents, was primarily intended for over-the-air TV broadcasters.”¹¹ But as the Commission also recognizes, “[t]he rules do not currently incorporate by reference a [digital television transmission] standard that applies to satellite TV (‘DBS’) providers.”¹² And this is significant because DIRECTV transmits a significant amount of programming in a non-AC-3 format. In its present form, RP A/85 does not address loudness for this class of programming.

⁸ See *id.* at 11 (defining LKFS and the ITU standard, BS.1770)

⁹ See *id.*, § 7.1, at 17 (“Carriage of and correct setting of the value of dialnorm is mandatory.”).

¹⁰ See 47 C.F.R. § 73.682(d).

¹¹ Notice, ¶ 4.

¹² *Id.*, ¶ 3, n.11.

The CALM Act will thus apply to programming transmitted using other audio codecs only after RP A/85 is amended.¹³ ATSC is currently in the process of considering a new Annex K to RP A/85 that would apply to digital television systems that use non-AC-3 audio codecs.¹⁴ For purposes of these comments, DIRECTV assumes that Annex K will be adopted before the Commission concludes this proceeding.

II. DIRECTV'S APPROACH TO LOUDNESS ISSUES

In order to appreciate the challenge of applying the CALM Act to programming transmitted by DIRECTV, one must understand how DIRECTV handles the various categories of programming it receives. In all, as of the end of 2010, DIRECTV offered more than 2,000 digital video and audio channels to its subscribers, including:

- Approximately 200 basic entertainment channels,
- 40 premium movie channels,
- Over 50 regional and specialty sports networks,
- Over 1,500 local channels in the aggregate,
- Over 120 Spanish-language and other foreign language special interest channels,

¹³ The CALM Act directs the Commission to incorporate RP A/85 “only insofar as such recommended practice concerns the transmission of commercial advertisements by a television broadcast station, cable operator, or other multichannel video programming distributor.” CALM Act, § 2(a). Given that RP A/85 describes a procedure for use by systems transmitting programming with AC-3 audio, *a fortiori* the current version of the recommended practice can only “concern the transmission of commercial advertisements” that use AC-3 technology. Accordingly, to the extent an MVPD such as DIRECTV transmits content using a different technology, incorporation of RP A/85’s requirements cannot extend to such transmissions. This limitation of the recommended procedure would also be a limitation on the Commission’s authority.

¹⁴ As currently proposed, Annex K generally provides that (1) channels be transmitted at an operator-selected loudness target value (measured in LKFS) for content on the channel, (2) loudness of commercials be measured in LKFS over all audio channels during the entire duration of the commercial, and (3) the loudness of commercials inserted into a programming stream should match the delivery channel’s loudness target value within ± 2 dB. DIRECTV supports this approach, and anticipates that ATSC will approve and adopt Annex K later this year.

- Over 31 pay-per-view movie and event choices,
- Over 160 national HD channels, and
- Four dedicated 3D channels.¹⁵

Thus, at any given time, a massive amount of content is received, processed, and transmitted by DIRECTV. Some of it is sent to DIRECTV with AC-3 audio, but some (especially legacy content) is not. Some of it includes time slots for insertion of commercials by DIRECTV, while some has all of the commercials already included. And some of it is transmitted by DIRECTV over its satellite system with AC-3 audio, while other programming is transmitted with a less capable audio codec that does not include support for audio loudness metadata.

For purposes of this proceeding, however, one fact is critical: *when DIRECTV receives a content stream from a programmer, it has no way of distinguishing commercials from long-form content and thus no way of adjusting the volume between the two in real time.* There is no special code in the AC-3 metadata (or in the metadata of any other audio codec) to identify commercials.¹⁶ Thus, a large and abrupt change in volume could just as easily be whispered dialogue followed by an explosion as an improperly loud commercial interruption. As discussed below, while DIRECTV can take some steps to calibrate the volume of content on a channel as a whole, it has no ability to adjust the volume of specific commercials in real time.

A. DIRECTV's Intake and Processing of Programming

DIRECTV receives programming from many different sources and in several different formats. For purposes of this proceeding, that programming can be broken down into two categories. The first is video programming with AC-3 audio coding that DIRECTV transmits to

¹⁵ See Comments of DIRECTV, Inc., MB Docket No. 07-269, at 10 (filed June 8, 2011) (*citing* DIRECTV, Annual Report (Form 10-K) (Feb. 28, 2011); The DIRECTV Group, Inc., Annual Report (Form 10-K) (Feb. 26, 2010)).

¹⁶ See RP A/85, Annex G (setting forth metadata parameters available in AC-3).

subscribers in HD format (including AC-3 audio). This is the easiest case for purposes of CALM Act implementation, as the processing equipment in DIRECTV's broadcast uplink centers simply matches the transmitted dialnorm metadata to what is received, and the set-top boxes in its subscribers' homes have the ability to use that metadata to adjust volume as contemplated under RP A/85. So long as the programmer has accurately set the dialnorm parameter for both long-form and short-form content and DIRECTV's equipment functions properly, there should be no noticeable disparity in the loudness of commercials.

The second category is video programming that DIRECTV transmits without AC-3 audio coding. This category is composed of SD programming, which has either been downconverted from HD format or was provided to DIRECTV with PCM stereo audio as its native format. Before transmitting this non-AC-3 content to subscribers, DIRECTV measures the long-term average loudness of the channel output. It then periodically adjusts the signal loudness so that this long-term average is set at DIRECTV's target output level. This is consistent with the recommended practice currently under consideration in Annex K.¹⁷ Here again, so long as the loudness of commercials in the programming stream is comparable to the loudness of long-form content, there should be no noticeable disparity between the two.

B. DIRECTV Monitoring of Loudness Issues

The *Notice* requests information on MVPDs' practices in monitoring the programming they carry, as well as their ability to pre-screen programming for volume differentials and to correct such errors.¹⁸ DIRECTV monitors programming on a regular basis. Its systems continuously sample every programming feed in five-second increments. The data from this monitoring is retained for 10 days, during which time it is available to DIRECTV's technical

¹⁷ See also *id.*, § 7.3.1, at 18 (discussing long-term averaging method).

¹⁸ See *Notice*, ¶¶ 24, 28.

staff should it need to investigate a volume-related issue. DIRECTV personnel periodically review this data to confirm or adjust the long-term average loudness level for the channels it transmits. If the data is not used within ten days, it is overwritten as the volume of data would otherwise quickly become overwhelming.

While this monitoring allows DIRECTV personnel to conduct reviews and make adjustments after-the-fact, it does not give DIRECTV the ability to screen programming in real time for differences in volume within any of the myriad feeds DIRECTV is constantly transmitting to its subscribers. As a practical matter, there is no way that DIRECTV can monitor any programming in real time, much less verify the volume settings within each programming stream and make corrections as necessary. The equipment to automate that task simply does not exist. Yet nothing that DIRECTV does in passing through the content received from programmers would create a volume disparity between commercials and other content that does not already exist in the programming stream it receives from the source. Accordingly, with the one exception discussed below, any disparity in commercial loudness flows directly from the programmer and DIRECTV has no practical ability to correct it.

C. DIRECTV Insertion of Commercials

The one situation in which DIRECTV actually does have control over the loudness of commercial advertisements is when it inserts those commercials into the programming stream itself. Typically, DIRECTV has the contractual right to insert two minutes of commercial advertising per hour into standard cable network programming, which generally has a total of 14 minutes of commercials per hour.¹⁹ It does not insert commercials into broadcast programming, which accounts for over 1,500 channels carried on the DIRECTV platform. In addition, many

¹⁹ See *id.*, ¶ 10 (seeking information on percentage of commercials each MVPD inserts into programming it carries).

premium channels (such as HBO, Showtime, and Cinemax) depend entirely on subscription fees, and thus do not include commercial advertisements. Accordingly, the vast majority of the material transmitted by DIRECTV is merely passed through without any insertion of commercial or other content by DIRECTV.

Like long-form content passed through by DIRECTV, commercial insertions fall into two categories. Insertion of short-form material into a stream of programming that has AC-3 audio coding is performed as contemplated by RP A/85. That is, DIRECTV determines the loudness (in LKFS) of the commercial material to be inserted, and then sets the dialnorm parameter to match that loudness.²⁰ Insertion of short-form material into a non-AC-3 stream of programming involves a similar process, through which DIRECTV first determines the loudness (in LKFS) of the commercial material, and then adjusts the loudness of that material to match the target long-term average loudness of the stream into which it is being inserted. This is exactly the process called for under proposed Annex K.

ARGUMENT

I. THE SAFE HARBOR SHOULD APPLY TO MVPDS THAT INSTALL, UTILIZE, AND MAINTAIN APPROPRIATE EQUIPMENT TO PASS THROUGH AC-3 METADATA OR SET TARGET LOUDNESS LEVELS.

Section 2(c) of the CALM Act expressly provides that a broadcast station or MVPD will be “deemed to be in compliance” with the Commission’s rules if such entity “installs, utilizes, and maintains in a commercially reasonable manner the equipment and associated software” necessary to comply with the Commission’s implementation of RP A/85.²¹ The legislative history clarifies that the Commission “should presume that an entity is in compliance with its

²⁰ See RP A/85, § 8.4, at 24-25.

²¹ See CALM Act, § 2(c).

rule where the entity can demonstrate that it has properly installed and is properly maintaining all needed equipment.”²²

With respect to entities that actually insert commercials into programming, this provision is straightforward and the Commission has interpreted it in a straightforward manner. With respect to MVPDs that pass through commercials inserted by third parties, however, the Commission proposes an interpretation that not only leads to irrational results, but is also wholly at odds with the “commercially reasonable” requirement in the statute.

Under the Commission’s proposed interpretation, the safe harbor would essentially be unavailable to MVPDs that transmit programming provided by others.²³ Specifically, the Commission proposes that an MVPD can invoke the safe harbor provision with respect to commercials that are inserted by a third party upstream in the programming distribution chain only if the MVPD employs equipment with which it can detect and correct loudness errors in the programming stream before transmitting them on to viewers.²⁴ But no such equipment exists. The AC-3 equipment used by MVPDs to process third-party programming does no more than ensure that metadata already encoded into a programming stream is accurately matched to the stream transmitted for processing by equipment in the viewer’s home. It does not independently identify or correct errors in that metadata.²⁵ Equipment does exist that can “level out” loudness

²² S. Rep. No. 111-340, 111th Cong., 2d Sess., at 4 (Sept. 29, 2010).

²³ *Notice*, ¶ 17 (“We believe, in this situation, the MVPD may be able to rely on the safe harbor with respect to the commercials it inserts into the programming stream, but not with respect to the commercials for which it does not utilize the equipment.”).

²⁴ *See id.*, ¶ 20 (“Consistent with that goal, we propose to interpret the term utilization in Section 2(c) to mean that, in order to satisfy the safe harbor provision, mechanisms must be in place to properly measure the loudness of the content for which the safe harbor is claimed and ensure that dialnorm metadata is encoded correctly before transmitting the content to the consumer.”).

²⁵ Similarly, the equipment for determining and setting long-term average loudness levels that it has installed, utilized, and maintained for non-AC-3 content will be used a great majority of the time to ensure that the overall loudness level of programming conforms to the MVPD’s target.

by artificially compressing the dynamic range available in AC-3 in order to reduce all loudness differentials within a stream of programming.²⁶ Such equipment, however, largely nullifies the very benefit that AC-3 was intended to achieve (*i.e.*, greater dynamic range), and does *not* correct coding errors as the Commission would require in order to qualify for the safe harbor.

MVPDs cannot “install[], utilize[], and maintain[]” equipment to correct coding errors in real time “in a commercially reasonable manner”²⁷ if the equipment does not exist. Moreover, the Supreme Court has held that, “[w]hen Congress acts to amend a statute, we presume it intends its amendment to have real and substantial effect.”²⁸ Yet the Commission’s proposed interpretation would render the safe harbor a virtual nullity for all functions performed by an MVPD other than the small degree to which it actually inserts commercials itself.²⁹ It would be strange indeed for Congress to make such a choice in the context of legislation that, as the Commission makes quite clear, was intended to apply directly to MVPDs and broadcast stations alike.³⁰ Nothing in the CALM Act indicates that Congress intended to exclude equipment used for transmission functions from the safe harbor,³¹ much less compels such a result.

²⁶ Although DIRECTV has tested several brands of such equipment, it has found that the “leveling” process degrades the sound quality of programming (especially motion pictures and sports) and introduces unwanted artifacts to an unacceptable degree.

²⁷ CALM Act, § 2(c).

²⁸ *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 701 (1995); *see also C.F. Commc’ns. Corp. v. FCC*, 128 F.3d 735, 739 (D.C. Cir. 1997) (citing “the familiar principle of statutory interpretation which requires construction ‘so that no provision is rendered inoperative or superfluous, void or insignificant.’”).

²⁹ For an MVPD that did not insert its own commercials, the safe harbor would be rendered entirely inapplicable.

³⁰ *E.g., Notice*, ¶ 1 (“As mandated by the statute, the proposed rules will apply to TV broadcasters, cable operators and other ... ‘MVPDs’”).

³¹ Recall that the CALM Act directs the Commission to adopt implementing rules “only insofar as [RP A/85] concerns the transmission of commercial advertisements.” CALM Act, § 2(a).

Moreover, interpreting the safe harbor as not applying to the pass-through of programming yields irrational results. For example, assume that a programmer installs, utilizes, and maintains appropriate equipment which malfunctions. The programmer thus distributes a programming stream with over-loud commercials to MVPDs that, in turn, pass along this programming stream to viewers. The programmer, whose actions resulted in the loudness disparity, would be protected by the CALM Act's safe harbor. The MVPDs, through no fault of their own, would be subject to liability even though their equipment performed as designed. Congress's creation of the safe harbor evidences a desire not to hold entities liable for loudness issues that occur despite the good faith efforts of all concerned using appropriate technological aids. But if any party should be liable in this scenario,³² it should be the programmer whose equipment malfunctioned, not the MVPDs whose equipment worked properly. This cannot be what Congress intended.

DIRECTV submits that the statute is more appropriately construed as creating a safe harbor for any party that installs, utilizes, and maintains equipment necessary to insert commercials at the appropriate loudness levels consistent with RP A/85 *or* to transmit a programming stream using a commercially reasonable process that maintains the commercial loudness levels relative to long-form content (with appropriate periodic adjustments for non-AC-3 programming). It is not rational to presume that Congress created a safe harbor for those inserting commercials but did not intend it to flow through to downstream entities unless they independently re-verify loudness settings and correct any errors before passing the programming

³² It is not clear that Congress would have imposed liability on any party in this scenario. But if (as suggested by the Commission) the MVPDs have an indemnification right against the programmer, their contractual claims against the programmer would eviscerate the protections of the statutory safe harbor.

stream along. Putting this additional burden on the transmitting entities is inconsistent with the safe harbor and would not be commercially reasonable given current technology.

II. THE COMMISSION SHOULD PERMIT MVPDS TO DEMONSTRATE COMPLIANCE THROUGH CERTIFICATION

In light of its interpretation of the CALM Act’s safe harbor provision, the Commission suggests that MVPDs take a contractual approach to compliance by incorporating RP A/85 requirements into their carriage agreements with content providers and arranging for indemnification in case of any failure to meet those requirements.³³ DIRECTV believes that this alternative is also worth pursuing, although it is no substitute for a more appropriate interpretation of the safe harbor itself.

DIRECTV disagrees, however, with the Commission’s proposal to treat contractual compliance under the CALM Act differently than contractual compliance for closed captioning.³⁴ MVPDs can demonstrate compliance with closed captioning requirements by producing certifications of compliance from programmers.³⁵ The Commission argues that a similar regime should not apply under the CALM Act because the closed captioning statute refers to “owners” while the CALM Act does not.³⁶ Thus, the Commission reasons, a “contractual” approach more like that allegedly contemplated under the Children’s Television Act of 1990 is warranted here.³⁷

Yet small differences among the three pieces of legislation cannot justify the approach proposed here. To begin with, the closed captioning and Children’s Television Act regimes take

³³ See Notice, ¶¶ 23-24.

³⁴ *Id.*

³⁵ 47 C.F.R. § 79.1(g)(6).

³⁶ Notice, ¶ 23 n.84.

³⁷ *Id.*

the same approach to certification. Indeed, the Commission adopted its certification rules for closed captioning *because certification had worked so well under the Children’s Television Act*.³⁸ DIRECTV, like all MVPDs, obtains nearly identical certifications for Children’s Television Act compliance as it does for closed captioning compliance. Likewise, both regimes place responsibility for compliance on exactly the same parties – MVPDs. While the closed captioning statute alone refers to “owners” of programming,³⁹ the Commission chose to place compliance obligations almost entirely on distributors.⁴⁰ Both the Children’s Television Act and the closed captioning regime thus place obligations on MVPDs, and both permit MVPDs to meet those obligations by obtaining certifications from programmers. We can see no valid legal or policy reason to treat contractual compliance under the CALM Act differently.

If the Commission nonetheless chooses to treat the CALM Act differently than the closed captioning or Children’s Television Act regimes, MVPDs should at least be able to use contractual compliance provisions as a mitigating factor in response to consumer complaints. Such mitigation should be enhanced where the MVPD is able to show that it has a practice of monitoring the content delivered for transmission to subscribers and working with programmers to make corrective adjustments as appropriate.

³⁸ *Closed Captioning and Video Description of Video Programming*, 13 FCC Rcd. 3272, ¶ 20 n.36 (1997) (“*Closed Captioning Order*”) (“Individual broadcast licensees and cable operators are held responsible for compliance under our rules implementing the Children’s Television Act, but they often rely on certifications of compliance from program suppliers”); *id.*, ¶ 28 (“We will allow distributors to demonstrate compliance with these rules by relying on certifications from program sources, such as producers, networks or syndicators, that expressly state that the programming is either captioned or exempt from our closed captioning rules, similar to the rules concerning commercial limits imposed by the Children’s Television Act of 1990.”).

³⁹ 47 U.S.C. § 613.

⁴⁰ *Closed Captioning Order*, ¶ 27 (“We believe that placing compliance obligations on distributors will allow us to monitor and enforce these rules more efficiently. By holding distributors responsible for captioning, there typically will be a single entity to which complaints must be addressed, and there will be no need for tracking the entities responsible for producing programs alleged to violate the rules.”).

Of course, under this approach, contractual provisions will not even be the subject of negotiation until existing carriage agreements come up for renewal. In some cases, such renewals will not occur for five or more years. Accordingly, any contractual approach is not a comprehensive solution in the near term even if an MVPD has a commercially reasonable process for securing appropriate contractual provisions as carriage agreements are renewed. In the context of a complaint that arises with respect to such an MVPD's carriage of a programmer whose contract has not yet been renewed, the Commission should presume that the MVPD would have secured a contractual obligation to comply with RP A/85 had it been given the opportunity to do so, and include that factor in its analysis of any enforcement action.

III. OTHER ISSUES

A. Special Considerations Applicable to Broadcasters

The *Notice* seeks comment on whether special considerations should apply to MVPD carriage of broadcast television stations.⁴¹ Broadcasters are themselves directly subject to the CALM Act's requirements, and so are independently liable for failure to comply. In determining liability under the Children's Television Act of 1991, which the Commission deems to be analogous to the CALM Act,⁴² the Commission exempted MVPDs from liability for "programs aired on a broadcast television channel which the [MVPD] passively carries."⁴³ A similar

⁴¹ *Notice*, ¶ 30.

⁴² *See id.*, ¶ 23 n.84.

⁴³ 47 C.F.R. § 76.225(e). The exemption also applies to other channels "over which the cable operator may not exercise editorial control." *Id.* Applying this same approach, DBS operators would not be liable for commercial loudness violations in political advertisements or programming carried pursuant to the public interest set-aside obligation. *See* 47 U.S.C. § 335.

exclusion applies for closed captioning.⁴⁴ The Commission should apply the same exemption in implementing the CALM Act.

B. Transcoded and Legacy Content

Programming that does not use AC-3 audio coding presents a challenge for application of RP A/85. The Commission has requested comment on such challenges with respect to programming that has been transcoded from one format to another and with respect to conforming legacy or inventory content.⁴⁵ In most cases, conversion from HD to SD format preserves loudness limitations in the original feed. Thus, if the dialnorm was set properly while the content was encoded in the AC-3 format, the loudness settings will generally be preserved in the transcoding process.⁴⁶ Non-AC-3 legacy content presents a different issue, as it requires that loudness be measured and calibrated for the first time. This process is addressed in proposed Annex K, which calls for determining the long-term average loudness of such content and setting it to the MVPD's target loudness level. DIRECTV already engages in this process and does not anticipate any difficulty in complying with the methodology proposed in Annex K.⁴⁷

C. Updating RP A/85

As evidenced by the recent adoption of Annex J and the ongoing consideration of Annex K, ATSC procedures are subject to periodic revision. The *Notice* tentatively concludes that any successors to RP A/85 should take effect automatically, without further notice and comment,

⁴⁴ See 47 C.F.R. § 79.1(e)(9) (providing that MVPDs “shall not be required to provide closed captioning for video programming that is by law not subject to their editorial control”).

⁴⁵ See *Notice*, ¶¶ 27, 31.

⁴⁶ As a practical matter, there may be small variations in loudness resulting from the transcoding process, but not generally in excess of ± 2 dB, which RP A/85 recognizes as acceptable fidelity. See RP A/85, § 7.1, at 17.

⁴⁷ To the extent rules go into effect before Annex K has been adopted, DIRECTV submits that the Commission should interpret the CALM Act to permit non-AC-3 transmissions of commercials where the loudness of such commercials is effectively controlled using the techniques described in RP A/85 prior to such transmission occurring.

upon clearance from the Director of the Federal Register to incorporate them by reference.⁴⁸ DIRECTV believes that this would be an unnecessarily abbreviated approach. Just as the Commission has recognized the necessity for flexibility in its efforts to “incorporate by reference and make mandatory” the requirements of RP A/85 in light of technological differences among MVPDs,⁴⁹ it should also recognize its discretion to do the same with respect to any future revisions of the standard. ATSC standards are developed primarily for use by broadcasters, and will not necessarily accommodate challenges to implementation by DBS operators such as DIRECTV.⁵⁰

Accordingly, just as this proceeding has provided an opportunity for the Commission to determine how best to apply the statutory mandate in different contexts, so too would a notice and comment period be an appropriate opportunity for similar consideration in the event of future revisions of RP A/85. The timeframe could be abbreviated if appropriate given the nature of the revision. At a minimum, there should be a process through which those who do not transmit using the ATSC format could petition for relief or some form of alternative method for satisfying any new obligation.

D. Gain Adjustment to Avoid Inaudible Audio

RP A/85 recommends that content loudness to be normalized at 31 LKFS after dialnorm is applied.⁵¹ However, through field testing of various television sets, DIRECTV has determined

⁴⁸ See Notice, ¶ 13.

⁴⁹ See, e.g., *id.*, ¶¶ 22 (discussing potential alternative methods for demonstrating compliance), 27 (discussing potential applicability of AP A/85 to non-AC-3 content), and 31 (discussing challenges in conforming legacy content).

⁵⁰ Although DIRECTV and other MVPDs have a voice in ATSC processes, the membership is composed predominantly of broadcasters and actions are taken by consensus, not unanimous approval.

⁵¹ See RP A/85, § 4, at 13.

that this loudness level is not sufficient in certain cases. Specifically, with the loudness set to the -31 LKFS level, when we equalize loudness levels for AC-3 and non-AC-3 channels, volume on the resulting transmission is reduced to an inaudible level on certain older televisions that lack the dynamic range built into newer televisions, as well as certain newer HD sets.⁵² When DIRECTV initially set its equipment to this level, it experienced a large increase in calls complaining about inaudible programming. In order to compensate for this phenomenon, DIRECTV increased the gain of its AC-3 transmissions by 3 dB. This adjustment yields a “broadcast standard” loudness of -28 LKFS, which has been found to ensure that all television sets can perform with sufficient audio volume. In order to maintain a fairly consistent level across channels, DIRECTV has adopted a “broadcast standard” loudness of -26 LKFS for non-AC-3 content.⁵³ Since making these adjustments, call volume related to inaudible programming has returned to normal levels.

This approach achieves the goals of the CALM Act because it both (1) ensures that the content within a given channel bitstream is calibrated at the same relative volume, and (2) because DIRECTV’s service is a closed system, also ensures that the volume is consistent between channels as well. The Commission should allow MVPDs to make such gain adjustments so long as they do so consistently to all programming transmitted over their facilities. Although this approach will technically result in a divergence between measured

⁵² DIRECTV has found this to be true even for over-the-air ATSC broadcasts, but the problem is not yet widely recognized because broadcasters are transmitting at levels higher than prescribed by RP A/85. For example, the average loudness of signals received by DIRECTV from local stations transmitting in ATSC format during the twenty-four hour period of July 6, 2011 was -28.8 LKFS after applying dialnorm.

⁵³ The 2 dB difference between AC-3 and non-AC-3 content is not noticeable to the viewer, but both are transmitted with sufficient loudness as to be audible on all television sets.

loudness and dialnorm, the differential will be constant within (as well as across) channels. As a result, the viewer's experience of programming loudness will also be consistent.⁵⁴

CONCLUSION

DIRECTV fully supports the efforts by Congress and the Commission to prevent the loudness of commercial advertisements from overwhelming the programming they accompany. It has evaluated and deployed equipment to monitor loudness levels and adjust them after-the-fact as appropriate. However, there simply is no equipment available that can identify commercials in a stream of programming and automatically determine and (if necessary) correct their loudness settings before transmitting the programming stream to viewers. DIRECTV believes that the Commission can implement the CALM Act to achieve its goals while taking this technological limitation into consideration. We look forward to continuing to work with the Commission and our programming suppliers to eliminate loudness disparities in the video content we provide to DIRECTV subscribers.

⁵⁴ Alternatively, the Commission could grant a waiver to allow this practice, as the CALM Act specifically preserves the Commission's discretion in this regard. However, DIRECTV submits that a waiver should not be necessary because this practice is essentially consistent with the requirements of RP A/85 for establishing consistent loudness levels between long-form and short-form content within a channel.

DECLARATION OF DANIEL MINER

1. My name is Daniel Miner. I am Director of Broadcast Systems Engineering of DIRECTV, Inc. I have held that position for three years, and been with DIRECTV for a total of eight years. In my current position, I am responsible for and involved in a variety of engineering matters, including the operation of DIRECTV's broadcast centers, which receive and prepare for retransmission cable and broadcast programming. As such, I would be primarily responsible for DIRECTV's implementation of the CALM Act.

2. I am aware of no equipment that would allow DIRECTV, in real time, to either (1) distinguish between commercials and long-form programming content, or (2) properly measure the loudness of content transmitted to DIRECTV using AC-3 encoding (or any other codec) and ensure that "dialnorm" metadata is encoded correctly before transmitting the content to the consumer.

3. I am aware of equipment that can "level out" loudness by artificially compressing the dynamic range available in AC-3 in order to reduce all loudness differentials within a stream of programming. Although DIRECTV has tested several brands of such equipment, it has found that the "leveling" process degrades the sound quality of programming (especially motion pictures and sports) and introduces unwanted artifacts to an unacceptable degree.

4. Although RP A/85 recommends that content loudness be normalized at -31 LKFS, after dialnorm is applied, through field testing of various television sets, DIRECTV has determined that this loudness level is not sufficient in certain cases. Specifically, with the loudness set to the -31 LKFS level, volume on the resulting transmission is reduced to an inaudible level on certain older televisions that lack the dynamic range built into newer televisions, as well as certain newer HD sets. When DIRECTV initially set its equipment to this

level, it experienced a large increase in calls complaining about inaudible programming. In order to compensate for this phenomenon, DIRECTV increased the gain of its AC-3 transmissions by 3 dB. This adjustment yields a “broadcast standard” loudness of -28 LKFS, which has been found to ensure that all television sets can perform with sufficient audio. In order to maintain a fairly consistent level across channels, DIRECTV has adopted a “broadcast standard” loudness of -26 LKFS for non-AC-3 content. Since making these adjustments, call volume related to inaudible programming has returned to normal levels.

I declare under penalty of perjury that the foregoing declaration is true and correct.

Executed on July 8, 2011

