

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

In the Matter of )  
 )  
Implementation of the Commercial ) MB Docket 11-93  
Loudness Mitigation (CALM) Act )  
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 )

To: The Commission

**Reply Comments of Hammett & Edison, Inc.**

The firm of Hammett & Edison, Inc., Consulting Engineers (“H&E”) respectfully submits these reply comments in the above-captioned Notice of Proposed Rulemaking (NPRM) relating to implementation of the Commercial Loudness Mitigation (CALM) Act. Hammett & Edison, Inc. is a professional service organization that provides consultation to commercial and governmental clients on communications, radio, television, and related engineering matters.

**I. Qualis Audio Comments**

1. Qualis Audio filed its comments three days early (as did H&E), on July 5, because of the short time from the date the Commission gave notice of the slipped filing date, on July 1, only one business day before the comment deadline, to the new filing deadline of July 8; indeed, the notice of the slipped comment deadline was not posted to the ECFS record until July 8! Thus, Qualis Audio was able to file supplemental “initial” comments, replying to the July 5 H&E comments, on July 7.

2. The July 7 Qualis comments are curious. It was the objection by Qualis Audio found in Qualis Audio Tech Note #2, *Understanding & Verifying Loudness Meters*, that alerted us to the automatic linkage provision contained in Section 5.2 of the ATSC A/85 Recommended Practice (RP)<sup>1</sup>, as follows:

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<sup>1</sup> On July 25, 2011, ATSC adopted a revised version of A/85, A/85:2011. However, that revised version keeps the automatic linkage to BS.1770. Thus, the revised A/85:2011 does not change our concern about the automatic linkage to a non-U.S. standard.

The revised A/85:2011 includes a new Annex K, which includes three new requirements. But these new requirements are labeled as “vital” rather than “should” or “must.” So is an A/85 “vital” requirement mandatory or not? Webster defines “vital” as “of the utmost importance,” so we would be inclined to treat a “vital requirement” as mandatory. But this is an unfortunate choice of term, because it introduces

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The ATSC document also states: "Users of this RP should apply the current version of ITU-R BS.1770." We will discuss the importance of this below.

and

At the end of October 2010 the ITU committee which maintains BS1770 accepted (after much negotiation, principally the relative gate threshold described below) ***changes submitted by the EBU.*** [bolded italics added].

and

The effect is to prevent advertisers from significantly increasing the loudness of a portion of a commercial by drastically reducing the loudness elsewhere.

and

This new version of BS1770 will probably be published in early 2011. Recall that ATSC A/85 already specifies that updates to BS1770 automatically apply.

3. An automatic linkage to a United Nations International Telecommunications Union (ITU) standard and/or an European Broadcasting Union (EBU) standard in an ATSC Recommended Practice (RP) is unusual, but not in itself alarming. But such an automatic linkage to a compulsory FCC rule, backed up with the possibility of a Notice of Apparent Liability (NAL), gets our attention.

4. Our comments never suggested that the United States did not agree to BS.1770, only that BS.1770 is a non-U.S. standard. And the EBU linkage comes from Qualis Audio's own Tech Note. We have to wonder if European broadcasters would have concern if BS.1770 said that any changes to ATSC A/85 would be automatically implemented in BS.1770?

5. When we conveyed our concern to ATSC in an e-mail, we received the following reply:

I think you're leaping to some conclusions that lawyers might tell you aren't issues. There are other federal laws which limit changes to normative references, so any change to BS.1770 will actually require an NPRM process.

Thus, it was the purpose of our comments to ensure that this issue gets raised, and because we provided a copy of our early comments to EBU PLOUD<sup>2</sup> members on July 7, we believe that is

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ambiguity. Ambiguity in a voluntary recommended practice is unfortunate; ambiguity in a government requirement should be unacceptable.

<sup>2</sup> This notification came about as a result of sending an e-mail to tech@ebu.ch, asking what the term PLOUD stood for, and whether the proper use was P/LOUD or PLOUD. This was done because our web searches could not find anywhere an explanation of that term. Our e-mail query hypothesized that the term might

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what triggered the additional July 7 comments filed by Qualis Audio; good, the more discussion of this issue, the better.

6. Accordingly, all we ask is that the Commission address this issue in the Report and Order (R&O), and ensure that "other federal laws," namely the Administrative Procedures Act (APA), are honored.

7. We agree with what Qualis Audio states at page 16 of its July 5 comments:

In any large or complex operation involving people, equipment, or both, mistakes *will* occur. A regulatory environment which punishes those entities which attempt to meet the regulatory goal merely because they have documentation of their failures will ultimately be less successful than one which encourages entities to document their failures and use that documentation to improve their operation in the future. The former encourages burial of operational problems not their elimination. The proper role for regulatory enforcement is to punish those entities which attempt to evade the process and reward those who embrace it as a path to greater customer satisfaction. Regulatory attention and penalties should be based on the pattern of failures and the actions in response to those failures rather than the existence of failures.

Gradually phasing in forfeiture provisions will allow regulated entities to risk occasional violations in the early years as they refine their procedures and learn the fine points of managing audio loudness. Early implementation of stiff forfeiture amounts for minor infractions or "learning curve mistakes" will encourage simplistic overkill solutions which will eviscerate the DTV promise of improved audio quality. We are not suggesting that the Commission implement rules with no teeth. Rather like a puppy, the teeth grow as the dog matures, learning when to sleep and when to bite.

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stand for "practical loudness." In response, we received this helpful and thorough reply (European spellings retained):

It is not obvious. Here is the history: We used to have a division of themes in the EBU in four areas: Production, Broadcasting, Networks, Spectrum. Each section was managed by a different committee (P, B, N, S). The Groups reflected the name: P/LOUD. Then the structure changed. A prefix based on another categorization was decided on (ECA- in the loudness case). However, the market was well aware of P/LOUD by that time. So we decided to minimize confusion (I hope) by removing the slash and making the "P" part of the name part: LOUD -- PLOUD. The "P" part is now explained as "Project," although almost nobody ever asks.

I like your interpretation of "Practical," though; I think it is a very good name for this Group-- with so many hands-on guys in the Group. End result: ECA-PLOUD, although in practice we refer to PLOUD only, as it is simpler and better known.

Given the EBU e-mail address, and the reference to EBU, we believe our characterization of BS.1770 as a non-U.S. standard was valid. This is not to imply that there is any problem with BS.1770, only that it didn't originate in the U.S., like ATSC standards and RPs do.

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Exceptionally well said.

8. In its July 5 comments, Qualis Audio did not address the equipment certification issue, but does in its July 7 comments. We are again pleased to see that our comments triggered discussion of the equipment certification issue by a manufacturer of hardware to monitor and limit loudness pursuant to the ATSC A/85 RP.

9. Qualis Audio opposes our suggestion that the Commission certify hardware intended to demonstrate compliance with the ATSC A/85 RP, believing that doing so would be burdensome. Qualis Audio concludes that no equipment manufacturer would dare market a device claiming to be compliant when it was not. We do not share Qualis Audio's optimism; indeed, it is said that the definition of a pessimist is an experienced optimist. We believe that the obligation of a large number of commercial TV stations and an even larger number of Multichannel Video Program Distributors (MVPDs)<sup>3</sup> needing to install hardware to ensure compliance with the CALM Act could result in the introduction of low-cost but non-compliant devices entering the market. The suppliers of such devices would be cashing-in on a one-time marketing opportunity as a result of the CALM Act and might not be planning to stay around to face the consequences, when the truth about such short-cut devices becomes apparent. Certification of A/85-compliance by a neutral FCC would ensure that does not happen. And it would provide a safe harbor to Qualis Audio and other *bona fide* manufacturers, ensuring protection of their investments in developing and supporting an A/85-compliant device.

10. We repeat that the Commission acting as the unbiased, neutral, regulatory entity is precisely why Congress created the FCC, why the Commission has a \$440M budget,<sup>4</sup> and why OET has its Laurel, MD, Laboratory.

### II. American Cable Association Comments

11. The American Cable Association (ACA) also expresses concern about any automatic modifications of the ATSC A/85 RP, stating:

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<sup>3</sup> The Regulatory Flexibility Act (RFA) portion of the NPRM states that there are 1,298 commercial TV stations in the United States, about 6,000 cable systems, two Direct Broadcast Satellite (DBS) providers, and 3,188 Open Video Services (OVS) entities. Thus, the total marketing opportunity for A/85-compliant monitoring and limiting hardware could be as great as 9,200 entities. While TV stations will probably require only a single device per station, MVPDs may well need multiple devices per headend if local insertions are made. So the total number of A/85-compliant monitoring/limiting devices could easily be on the order of 20,000 to 30,000 units nationwide.

<sup>4</sup> \$352.5 M in direct Congressional funding, plus \$85M in spectrum auction proceeds.



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The requirement in the statute that the Commission incorporate into its regulations any successor to A/85 approved by the ATSC without exercising any review or discretion raises the issue of whether Congress can properly delegate such unfettered lawmaking authority to a non-government entity.

and

While Congress certainly has the ability to codify a known industry standard, successor standards may vary greatly from the original and may incorporate requirements that Congress could not have legally codified in the first instance, e.g., provisions that inhibit interstate commerce or infringe on free speech.

12. We believe that our concern about modifications to the various weighting algorithms in the BS.1770 standard, with its European linkage, plus the psycho-acoustic nature of any loudness limiting algorithm, means that any modification to a mandatory A/85 needs to be subject to the checks and balances of the rulemaking process. The fact that BS.1770 is an ITU standard, and that the U.S. is a member of the United Nations ITU parent, does not mean that the provisions of the APA no longer apply.

### III. AT&T Comments

13. The AT&T comments state:

In its essentials, however, ATSC A/85 recommends that the TV industry measure the loudness of content according to the technique specified in ITU BS.1770 and transmit dialnorm metadata that accurately reflects the measured loudness level of that content.

and

Thus, it [the FCC] should conclude that any television station/MVPD that has deployed systems and equipment that perform the essential functions of measuring content loudness consistent with ITU BS.1770...

and

Accordingly, the Commission should broadly construe the CALM Act and find that a television station/MVPD that has deployed audio systems and equipment that perform the essential functions of measuring content loudness consistent with ITU BS.1770 and transmitting normalized audio content downstream to consumers complies with the CALM Act...

14. The AT&T comments are going a step further, and equating ITU BS.1770 as the benchmark, and bypassing ATSC A/85. While we have respect for the work of the ITU, the ITU is not ATSC, and the ATSC is not the FCC. Because the FCC will be the entity enforcing



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compliance, the requirements imposed on broadcasters and MVPDs need to stay within the rulemaking process.

### IV. DIRECTV Comments

15. The DIRECTV, Inc. comments state:

The Notice tentatively concludes that any successors to RP A/85 should take effect automatically, without further notice or comment, upon clearance from the Director of the Federal Register to incorporate them by reference. DIRECTV believes that this would be an unnecessarily abbreviated approach.

and

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 to RP A/85.

16. As pointed out in Paragraph 10 of our comments, while the NPRM indicated at footnote 8 that public notice of changes to A/85 would be given, whereas at Paragraph 13 the NPRM indicated that no notice and comment would be given, it was unclear to us what was being proposed. Nevertheless, we agree with DIRECTV that if A/85 has been made mandatory by the Commission, then the Commission is required to commence a Further Notice of Proposed Rulemaking (FNPRM) before it could enforce compliance to a changed A/85.

### V. Harris Corporation, Inc./DTS, Inc. Comments

17. The Harris Corporation, Inc./DTS, Inc. joint comments include the following statements:

To ensure that loudness mitigation and monitoring equipment conforms to the ITU-R BS.1770, the Joint Commenters recommend that equipment manufacturers not on the product website and within the product manual that the equipment conforms to the ATSC A/85 RP and ITU-R BS.1770.

and

There are numerous loudness standards used throughout the world and an equipment labeling requirement could increase manufacturing costs by impacting the economies of scale that result from mass production of equipment, namely the chassis.

and

Notations on equipment manufacturers' product web sites and within product manuals are a minimally burdensome way to provide broadcasters and MVPDs with assurance that the equipment they are purchasing complies with the ATSC A/85 and ITU-R BS.1770.

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18. First, we find it hard to believe that merely applying a label to a product could interfere with “economies of scale.” Second, we find it interesting that Harris Corporation/DTS appear to see the ATSC A/85 RP as a separate standard from ITU BS.1770. If so, then the CALM Act precludes adoption of BS.1770, since that law explicitly instructs the FCC to implement ATSC A/85, not ITU BS.1770. Yet Section 5.2 of the A/85 RP says that updates to BS.1770 should be automatically incorporated. The R&O needs to resolve this apparent conflict.

### VI. Hubbard Broadcasting Comments

19. The comments of Hubbard Broadcasting, Inc. (HBI) state

HBI understands that the Commission does not intend to require equipment authorization through an equipment verification process. However, HBI suggests that the Commission mandate that a broadcaster or MVPD will be deemed to have installed fully compliant equipment (1) if the manufacturer certifies that such equipment is in full compliance with the relevant ATSC standards and (2) the broadcaster or MVPD has installed the equipment per the manufacturer’s instructions.

20. First, we believe that HBI meant to state “ATSC RP,” not “ATSC standards,” since A/85 is a Recommended Practice (RP), not a standard. An ATSC standard addresses a specification or criteria that is *necessary* for effective interconnection with advanced television systems, whereas an ATSC RP addresses specifications or criteria that are not necessary for effective interconnection, but which are thought to be advisable. Second, we believe that the safe harbor of FCC certification, not manufacturer’s certification, is called for. Otherwise we expect that it will not be long before newcomer vendors start appearing, claiming to offer A/85-compliant devices that are not. This could be a land mine both for users and for *bona fide* manufacturers of A/85-compliant devices, who could see their sales of high-quality, legitimate devices lost to non-compliant devices. The result could be annoyed viewers, annoyed TV stations, annoyed legitimate loudness monitor/controller manufacturers, and a very annoyed Congress. It would be best to provide the safe harbor of FCC certification, and avoid any compliance questions from the start.

### VII. NAB Comments

21. The National Association of Broadcasters (NAB) comments include the following:

Pursuant to the APA, the Commission must follow notice-and-comment rulemaking procedures when adopt in a successor recommended practice.

A successor recommended practice that adds a small quality improvement could require the installation of new or modified-- potentially costly-- equipment, and stations that have installed equipment that complies with an earlier version of ATSC A/85 may need to seek waivers under



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either the financial hardship provision or pursuant to Section 1.3 of the Commission's rules.

and

As the NPRM itself demonstrates, A/85 and successor recommended practices may raise issues of *interpretation* that could have a significant impact on industry practices and are best worked out *before* stations are required to comply. [*italics in the original.*]

22. NAB is correct. Even if there was no automatic linkage in A/85 to the non-U.S. ITU BS.1770 standard, and the possibility of appropriate-to-EBU but maybe not appropriate-to-the U.S. modification of the loudness algorithms, any changes to A/85 would trigger the requirement for a FNPRM. It is just that basic.

### VIII. NCTA Comments

23. The National Cable & Telecommunications Association (NCTA) comments include the following:

The Commission should provide notice and an opportunity to comment about this proposal or any successor regulation to the A/85 Recommended Practice.

and, at footnote 55:

We thus take issue with the Notice's tentative conclusion that "no notice and comment will be necessary to incorporate successor documents into our rules."

24. Thus, it would appear that NAB and NCTA are in agreement on at least one issue: The Commission cannot automatically make mandatory future, unknown changes to an ATSC document (or any third-party document), without first complying with its APA obligations. We agree.

26. Indeed, when ATSC updated its A/53 DTV standard, the Commission included adoption of that updated standard in its MB Docket 07-91 Third Periodic DTV Review rulemaking. In the December 31, 2007, MB 07-91 R&O, the Commission stated:

We find that it is desirable and appropriate to update Section 73.682(d) of the rules to specify the use of the latest version of this ATSC DTV transmission standard, A/53:2007.

27. If it was "desirable and appropriate" in 2007 to go through the rulemaking process to adopt an updated version of the ATSC A/53 standard, how can it not also be so in the event of an






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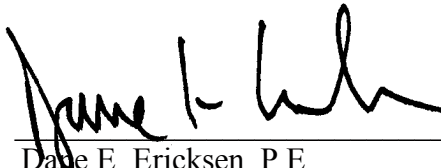
updated version of A/85? The answer is that not only would it be desirable and appropriate, doing so would appear to be required by the APA.

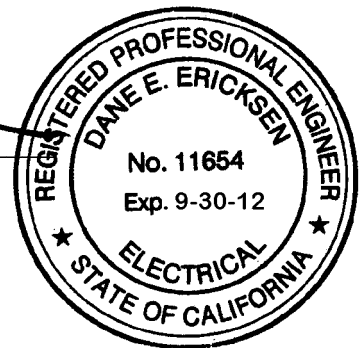
### IX. Summary

28. The R&O needs to address the issue of whether changes to ITU BS.1770, automatically implemented into ATSC A/85, can be made binding on TV stations and MVPDs. We think not, because of the Commission's APA obligations, and the fact that the CALM Act, unlike the DTV Delay Act,<sup>5</sup> did not exempt the Commission from complying with the APA. The Commission should also certify loudness monitoring/control devices for compliance with A/85, to ensure that a market for non-compliant devices does not get created.

By   
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President



By   
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<sup>5</sup> DTV Delay Act, Public Law 111-4; see also Paragraph 1 of the February 20, 2009, MB Docket 09-17 (Implementation of the DTV Delay Act) Second R&O and NPRM.