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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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

In the Matter of	)	
	)	
1998 Biennial Regulatory Review -- Modifications to Signal Power Limitations Contained in Part 68 of the Commission's Rules	)	CC Docket No. 98-163

COMMENTS

The Telecommunications Industry Association User Premises Equipment Division ("TIA")[1] hereby submits these Comments in response to the FCC's Notice of Proposed Rulemaking ("NPRM") in the matter of the 1998 Biennial Regulatory Review - Modifications to Signal Power Limitations Contained in Part 68 of the Commission's Rules, released September 16, 1998, CC Docket No. 98-163, FCC 98-221, 63 Fed. Reg. 51888 (September 29.1998).

TIA applauds the Commission in its initiatives to make it possible to download data from the Internet and other sources and increase the speed of data communications by making limited changes to signal power limitations, namely, increasing the limit on encoded analog content. TIA believes that changes of this type, especially with respect to signal power limitations in Part

[1]The Telecommunications Industry Association is a full-service national organization with membership of over 900 large and small companies which provide communications and information technology products, materials, systems, distribution services and professional services in the United States and countries abroad. TIA represents the telecommunications industry in association with the Electronic Industries Alliance. The User Premises Equipment Division represents those TIA members with an interest in terminal equipment and customer premises equipment and distribution systems. This filing represents a consensus of those members. Individual TIA members may file their own comments to amplify or elaborate on any issues of concern to that company or organization.

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68, are necessary if the public is to be able to enjoy full advantages of network capabilities and introduction of new technologies. TIA and its members understand the need for technical criteria and requirements in Part 68 to protect the network from "harm" as that term is defined in Part 68. However, TIA also understands the network is dynamic and always evolving and that criteria need to be revisited from time to time to ensure such criteria are still required. As explained below, TIA believes the limited change proposed by the Commission in this proceeding creates little, if any, potential for increased harm or interference to the network and its services. However, TIA does have concerns that broader relaxation of signal power limitations should not be made without adequate studies and test data that will define the network's spectrum environment and restrictions.

In this proceeding, the FCC correctly notes that Pulse Code Modulation ("PCM") data modems are unable to operate at their full capability because of limitations placed on them for encoded analog content.[2] The FCC also correctly notes that the current analog limit of -12 dBm is based solely on the overload characteristics of interoffice analog frequency division multiplexing ("FDM") systems. These FDM systems, which were widespread in the 1970's, are now largely retired. Nevertheless, the current in-band signal power limitations applied to terminal equipment today are still based on the restrictions imposed by the interoffice analog FDM systems. In other words, voice band power limits have not been revised to reflect the evolution of the inter-exchange facilities to digital carrier systems that are not subject to analog overload limitations. On the other

[2] Since the FCC did not define PCM modems in the NPRM, TIA offers the following proposed definition: PCM modems – all digital modems that transmit signals of 56 kbps or less and involve at most a single digital-to-analog conversion at the network office serving the receiving customers' local loop. TIA recommends that the FCC include a definition of PCM modems in Section 68.3.

hand, voice band limits in the local loop plant are controlled by crosstalk performance of the copper pair cable and could be somewhat higher than is now allowed if not for the FDM overload conditions. Given this situation and the fact that the increased analog signal power will only exist on the receiving loop because of PCM modem applications, TIA does not believe that relaxing the encoded analog content limit to -6 dBm for PCM modems creates significant potential for harm in the loop plant. Of course, any "actual" harm can be adequately addressed under current Part 68 provisions, see §68.108.

TIA respectfully concludes that based on its evaluation, relaxing the encoded analog content signal limits by 6dB for PCM modems should not create any increased potential for harm in the loop plant. Although supportive of the proposed changes, TIA notes that there are concerns on the lack of practical test data to verify this conclusion and further notes that the T1A1.7 Standards Development group is finalizing a detailed test plan that should lead to a much fuller understanding of the voice band power limits associated with PCM modems.[3]

The following specific comments follow the format of the NPRM referring to the relevant paragraphs and numbers and responding to areas where the FCC seeks input. In addition, TIA offers proposed wording for amendments to Appendix B, following these Comments.

In Paragraph 5 of the NPRM, the Commission cites §68.308(h)(1)(iv) and §68.308(h)(2)(v) as candidates for the proposed changes from -12dBm to -6dBm.

[3] Some TIA members are of the opinion that such practical testing should be carried out before any signal power limits can be relaxed.

In addition to the proposed changes to these sections, TIA suggests that these changes also apply to §68.308 (b)(1)(viii), and §68.308(h)(4) as these sections deal with encoded analog content requirements for public switched digital services ("PSDS") and integrated services digital networks ("ISDN") basic rate services, respectively. TIA further recommends that the changes be allowed only for PCM modems.

In Paragraph 9 of the NPRM, the Commission notes that the proposed modifications may produce only "moderate" improvements in the actual performance of 56 kbps PCM modems. A number of TIA members believe that the improved performance enabled by the higher allowed power can be significant given the number of modems in use and the number of users on-line. Examples of PCM modems that can benefit by improved performance are data modems conforming to International Telecommunication Union Telecommunication Standardization Sector ("ITU-T") Recommendation V.90, and similar technologies known as x2 and K56flex.

CONCLUSION

Facilitating faster Internet and other on-line accesses with higher allowable signal power while maintaining the integrity of the network protection goals of FCC Part 68 has important positive consequences for US consumers. TIA therefore supports the Commission's efforts in this NPRM. Some in the industry want a more cautious approach to allowing this proposed change and review of the results of practical testing Even though there are some dissenting members, TIA recommends that the FCC allow the higher signal power to PCM modems at this time.

Respectfully submitted,

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October 29, 1998

APPENDIX B
PROPOSED RULE CHANGES

Title 47 of the Code of Federal Regulations Part 68 is proposed to be amended as follows:

Part 68 - CONNECTION OF TERMINAL EQUIPMENT TO THE TELEPHONE NETWORK

1. The authority citation for Part 68 continues to read as follows:

AUTHORITY: Sections 1, 4, 5, 201-5, 208, 215, 218, 226, 227, 303, 313, 314, 403, 404,
410, 522 of the Communications Act of 1934, as amended, 47 U.S.C. __ 151, 154, 155, 201-5,
208, 215, 218, 226, 227, 303, 313, 314, 403, 404, 410, 522.

2. Section 68.308 is amended as follows:

Section 68.308 Signal Power Limitations.

* * * * *

(b)****

(1)****

(viii) For PSDS (Types I, II and III) terminal equipment when in the digital mode of transmission, the maximum equivalent power of any encoded analog signal (other than live voice **and PCM modems)** shall not exceed -12dBm when averaged over any 3-second interval. The equivalent analog power shall be derived by a zero-level decoder at the network interface to PSDS (Type II or III) facilities. **For PCM modems, the maximum equivalent power of encoded analog signals not intended for network control signaling as derived by a zero level decoder test configuration shall not exceed –6 dBm when averaged over any 3-second time interval.**

(h) Interference limitations for transmission of bipolar signals over digital services

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(1) Limitations on Terminal Equipment Connecting to Subrate Digital Services

* * * * *

(iv) Encoded analog content. * * * * *

The maximum equivalent power of encoded analog signals for other than live voice **and PCM modems** as derived by a zero level decoder test configuration shall not exceed ~~-6~~ **–12** dBm when averaged over any 3-second time interval. **For PCM modems, the maximum equivalent power of encoded analog signals not intended for network control signaling as derived by a zero level decoder test configuration shall not exceed –6 dBm when averaged over any 3-second time interval.**

* * * * *

(2) Limitations on Terminal Equipment Connecting to 1.544 Mbps Digital Services and ISDN PRA Services

* * * * *

(v) Encoded analog content. * * * * *

The maximum equivalent power of encoded analog signals for other than live voice **and PCM modems** that are not intended for network control signaling as derived by a zero level decoder test configuration shall not exceed ~~-6~~ **-12** dBm when averaged over any 3-second time interval. **For PCM modems, the maximum equivalent power of encoded analog signals not intended for network control signaling as derived by a zero level decoder test configuration shall not exceed –6 dBm when averaged over any 3-second time interval.**

(4) Limitations on Terminal Equipment Connected to ISDN BRA.

If registered terminal equipment connecting to ISDN BRA services contains a digital-to-analog converter, or generates signals directly in digital form, which are intended for eventual conversion into voiceband analog signals, the encoded analog content of the digital signal must be limited. The maximum equivalent power of the encoded analog signals, other than live voice **and PCM modems** as derived from a zero-level-decoder test configuration, shall not exceed –12 dBm when averaged over a three second interval. The maximum equivalent power of encoded analog signals, as derived by a zero-level decoder test configuration, for network control signaling, shall not exceed –3 dBm when averaged over any three-second interval. **For PCM modems, the maximum equivalent power of encoded analog signals signals not intended for network control signaling as derived by a zero level decoder test configuration shall not exceed –6 dBm when averaged over any 3-second time interval.**