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FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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 OF BELL ATLANTIC¹

Changes in the Commission’s Part 68 rules that could affect service provided to the public should be made only after the completion of actual network testing, not based upon purely theoretical information or opinions presented in pleadings. Here, the fact that North American standards organizations have been unwilling to endorse increasing encoded analog content power to accommodate 56 kilobits per second (“kbps”) pulse code modulation (“PCM”) modems² because of lack of supporting evidence should give the Commission serious pause about adopting its proposed rule

¹ The Bell Atlantic telephone companies (“Bell Atlantic”) are Bell Atlantic-Delaware, Inc.; Bell Atlantic-Maryland, Inc.; Bell Atlantic-New Jersey, Inc.; Bell Atlantic-Pennsylvania, Inc.; Bell Atlantic-Virginia, Inc.; Bell Atlantic-Washington, D.C., Inc.; Bell Atlantic-West Virginia, Inc.; New York Telephone Company; and New England Telephone and Telegraph Company.

² “PCM modems” are V.90 and similar digital modems that transmit PCM signals of 64 kbps or less and are intended for eventual conversion to analog voiceband data. The V.90 standard was approved on September 1998. Modems using earlier proprietary technologies are sometimes referred to as V.PCM modems.

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changes³ without hard evidence that those changes would have no adverse effect on the quality of services to end users.⁴

The Commission should require two things before it adopts its proposed rule change. First, potential Part 68 registrants should submit information to support their view that the proposal will not degrade service, including power spectral density and peak signal power levels, as well as valid cross-talk coupling calculations and measurements. Second, the Commission should state that it will not consider whether or not to adopt a rule change until the industry conducts the necessary tests of the actual impact of the power increase on the network and reports those results to the Commission.⁵

The benefit to the public is relatively small – a maximum data rate increase from 54 to 56 kbps – compared to the potential risk of degradation of service.⁶ If the Commission nonetheless believes that some interim relief is needed, it should grant a limited waiver of its encoded analog content power limit rules, pending further action in

³ See *Notice of Proposed Rulemaking*, FCC 98-221 (rel. Sept. 16, 1998) (“Notice”).

⁴ The change that the Commission proposes in this proceeding has been under discussion for two years in the T1A1.7 and TR41.9 standards groups. Both groups requested supporting evidence that no harm will result. Preliminary tests were performed in December 1997, and T1A1.7 subsequently developed a test plan for investigating the potential for cross-talk from V.90 modems operating at the proposed higher encoded content signal level. That test plan is out for industry ballot and will be resolved during a meeting scheduled for November 3-5, 1998.

⁵ The test plan that T1A1.7 will consider in its upcoming meeting, if conducted, could provide the Commission with the needed information.

⁶ Whether a customer actually experiences the maximum designed data rate is a function of the Internet Service Provider’s equipment and facilities, and of the particular local telecommunications network and loop facilities serving the end user.

this proceeding, to allow attachment of 56 kbps PCM modems. In the event the higher power from those modems degrades service to customers of any local exchange carrier, such as by causing cross-talk, however, the Commission should delegate authority to the Common Carrier Bureau to lift the waiver for that carrier and limit modems operating on that carrier's network to the existing power limitations.⁷

The Commission indicates that it adopted the present power limits in 1975 as a conservative approach. Notice at ¶ 2. One of the bases for limiting loop power to -12 dBm was the need to avoid overloading the analog frequency division multiplex ("FDM") systems which were then widely deployed. The Commission assumes that such facilities have largely been replaced by digital facilities which are less sensitive to degradation from signal power. *Id.* at n.17. This is true in Bell Atlantic for interoffice facilities, although Bell Atlantic still has a number of analog FDM loops in service.

Modem manufacturers will likely argue here that PCM modems are less likely than other CPE to adversely affect service over analog FDM loops, because in many cases they would automatically fall back to V.34 operation, reducing power (and data rate) upon encountering an analog FDM loop. This argument supports granting an interim waiver pending further tests. However, other CPE that does not contain this fall-back capability would not make the same power level adjustment and would be more likely to cause cross-talk over analog FDM loops. For that reason, any waiver should be limited to PCM modems. The waiver should terminate when Part 68 applicants have

⁷ Modem manufacturers have asserted in T1 committee sessions that encoded analog content power levels can be adjusted by software changes, and that the software can be downloaded remotely. Therefore, any needed adjustments to the modems should be accomplished quickly and easily.

submitted hard evidence to the Commission, such as by executing the test plan that the T1A1.7 standards group have developed, of the effect of increased PCM modem signal power on the network and the Commission has determined whether or not a rule change is warranted. Any rule changes beyond PCM modems should await completion of additional industry testing of the devices in question.

One of the reasons that the Commission appears anxious to change the rules is public pressure from users who cannot receive 56 kbps data through a "56 kbps" modem. These complaints stem from the fact that modem manufacturers and vendors advertise and sell modems as capable of transmitting or receiving data at 56 kbps, even though they are fully aware of the limitations under the Commission's Part 68 rules. This gives end users a false performance expectation and leads to complaints when they are told that the problem is the Commission's rules. Even if the encoded analog content power limit is waived or raised, however, 56 kbps is merely a theoretical maximum and is a function of both the Internet Service Provider's and the local telephone company's facilities. Many end users will therefore still receive data at a lower rate. If modem providers were to educate their customers better, the number of complaints would likely decline quickly.

To illustrate this problem, earlier this year, in a newsletter to Part 68 applicants, William von Alven of the Commission's staff addressed this issue by quoting Jack Douglas of Oak Technologies:

We now have a marketing problem, not line problems or modem problems. The modem manufacturers are not educating the public about the fact that the new modems are designed to adapt to the line conditions by changing speed. When they say that the modem is a 56K modem they really mean that it can operate at speeds up to 56K. However, the majority

of the time the modem will operate at much lower speeds depending upon the line conditions. In many cases, the local lines won't support a PCM modem (56K) connection because there is an Analog to Digital conversion between them and the Internet Service Provider. In this case, the modem will fall back to 33.6K or less.

The Billboard, No. 131 (Feb. 1998). Likewise, many Internet Service Providers and providers of the Internet backbone deliver signals from the Internet at speeds of less than 56 kbps. In those instances, the proposed rule changes would have no effect on the rate at which end users receive data from the Internet.

Accordingly, whether or not the Commission adopts a rule change at this time (which it should not) or an interim waiver, it should work with modem manufacturers and vendors to ensure that the public is not misinformed about the expected performance of the equipment.

The Commission should not change its encoded analog content power limit rules until it receives the results of industry testing. If it feels that an immediate change is needed, it should adopt a waiver, pending the results of those tests, limited to 56 kbps PCM modems, as discussed herein.

Michael E. Glover
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October 29, 1998

Respectfully Submitted,

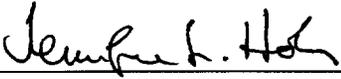


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CERTIFICATE OF SERVICE

I hereby certify that on this 29th day of October, 1998, a copy of Bell Atlantic's foregoing "Comments" was sent by first class mail, postage prepaid, to the parties on the attached list.



Jennifer L. Hoh

* Via hand delivery.

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