

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

In the Matter of)
)
Amendment of Section 68.213(c) of the)
Commission's Rules and Regulations)
Regarding the Material Requirements)
for Simple Premises Wiring)

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

PETITION FOR EXPEDITED RULEMAKING

Pursuant to Section 1.401 of the Commission's rules, 47 C.F.R.§1.401, Building Industry Consulting Service International (BICSI) respectfully submits this Petition for Expedited Rulemaking (Petition) to amend Section 68.213(c) for improved consumer protection against the clear and growing network harm of "crosstalk." As set forth below, the present and potential degradation attributable to increasing use of non-standard wire compels BICSI to ask for expedited consideration of its Petition.

Subsection (c) describes the material requirements for other than "fully protected" simple customer premises wiring.¹ Adoption of BICSI's proposed amendments will insure adequate protection to the network and the consumer with regard to the quality and type of telecommunications wiring that is installed on customer premises.

¹ Fully-protected system and non-system premises wiring is defined at Section 68.3 of the rules.

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Background

BICSI is an international organization with a membership of approximately 5,500 telecommunications industry professionals. BICSI's mission is to lead the industry in the enhancement of quality telecommunications services and methods around the globe by providing excellent education, promoting skill sharing and assessing knowledge through professional registration programs. It is pursuant to this mission that BICSI submits its Petition.

BICSI members are concerned that the present Section 68.213(c) does not adequately protect the network from harm caused by crosstalk² traceable to poor-quality premises wiring. There have been numerous incidents of harm to the network caused by the installation of this wiring. While BICSI firmly believes in minimizing regulation, its members feel just as strongly that the only way to resolve this problem is to amend the Commission's rules.

Scope of the Problem

BICSI has become aware of a number of complaints relating to problems encountered by the installation of wiring that does not meet the industry standards for telecommunications. The problems with these installations are not immediately recognizable by the consumer. Instead, they emerge later, when the consumer adds services to the telecommunications wiring. All too often, the new services crosstalk into the existing services. Carriers have experienced an increasing number of problems relating to crosstalk because of the connection of poor-quality wiring to their services.³ After careful analyses they have identified

² Crosstalk is the unintentional interference with the service of a third party -- other than the calling or the called party -- and qualifies as a harm to the network under §68.3. Specifically, crosstalk constitutes "degradation of service to persons other than the user of the subject terminal equipment, his calling or called party."

³ BellSouth reported on the subject at an FCC Ad Hoc Administrative Working Group Meeting in Clearwater, Florida on March 4, 1994. (BellSouth Report) United Telephone of

the main cause of the problem as simple premises wiring that did not meet communications industry standards.⁴

As explained in the BellSouth Report, both the Insulated Cable Engineers Association and the 1991 Standard of the Electronic Industries Association/Telecommunications Industry Association (EIA/TIA) have requirements for “twisted pairs” of wires and for cable capacitance. Both of these are designed to minimize crosstalk. While Section 68.213(d) contains a general prescription for “attestation” of compliance with Part 68 on the part of wiring manufacturers, distributors or retailers, marking of the wire as attested is not compelled.

Educational programs eliciting the voluntary cooperation of the construction industry to resolve the problem have met with little success. It seems that, owing partly to the competitive nature of the building industry, the common reaction of many contractors is to provide the least-cost wiring system.⁵ In its training relating to building premises wiring design, BICSI supports the use of only standard telecommunications wiring for all telecommunications applications.

The need for action is all the more apparent as single-line residential and small-business service gives way to multiple lines, and as data services operating

Florida gave a presentation on surveys in its Lake Brantley service area at the FCC Industry Meeting in Washington, D.C. in November, 1993. (United Surveys) BICSI recommends that, if its Petition is granted, these telephone company presentations be placed on the record of the rulemaking docket.

⁴ According to the BellSouth Report, efforts to amend the National Electrical Code (NEC) -- which has the force of building code law in many counties and municipalities -- cannot be considered again until 1999, and are likely to be futile, in any event, because the NEC’s emphasis is on safety harms and not the crosstalk harm of service degradation.

⁵ The false economy of installing cheaply and risking expensive re-wiring is set forth below in price comparisons from the United Surveys.

at higher speeds become more prevalent. According to a “Problem Statement” introducing the United Surveys:

In recent years, four conductor wire has been used for prewire in new residential construction. While it is adequate for single-line voice frequency service (POTS), when used for two telephone lines in a home, four-conductor, non-twisted wire in many cases causes “crosstalk” between the two lines. Also, this wire will not support the future telecommunications infrastructure with its demands for high-speed data communications.

The United Surveys went on to observe that the current Part 68 “does not address transmission requirements for residential inside wiring.”⁶

The Florida company concluded that the small additional cost of using standard wire at installation was far outweighed by the heavy expense of re-wiring if needed to eliminate crosstalk:

A price comparison of initial inside wiring using four-pair twisted wire and rewiring from four-conductor, non-twisted wire to four-pair twisted wire shows that consumers can either pay \$2.64 for the best wire or pay \$240 later for rewiring.

Besides the dramatic economies of wiring properly the first time, BICSI agrees with BellSouth and United that the establishment of the proposed amendment to the rules will better position consumers for new and innovative services, such as multimedia and Internet access, that are part and parcel of the “Global Information Infrastructure.” Work presently underway in the TIA TR41 Committee, to develop standards for premises wiring supporting these technological advancements, is all based on the use of standard telecommunications wiring.

⁶ The United Surveys documented the Problem Statement with statistical detail about the high and rising level of requests for service that were multiple rather than single-line voice. The Lake Brantley surveys also found new home and apartment pre-wiring to be employing, 100% and 80% respectively, a four-conductor, non-twisted wiring most susceptible to crosstalk. On a statewide basis, this type of wire accounted for nearly two-thirds of all pre-wiring.

In addition to the foregoing reasons, the FCC should act publicly because the problem is not easily remedied by private means. In the vast majority of cases the end user of the wiring has had no say in the selection or installation of the wiring. The wiring is placed by the contractor during construction. In many cases, the contractor is not aware of performance differences in telecommunications wiring, or simply makes a choice based on "Low Bid." In the United study, the cost to the consumer to rectify crosstalk via re-wiring was nearly 100 times greater than avoiding the problem in the first place. Worse yet, in many buildings that wiring simply cannot be replaced and must be abandoned. A frequent consequence is that replacement wiring must remain exposed, rather than concealed within the walls.

Conclusion

From the discussion above, crosstalk is a clear, present and growing harm that degrades third-party service. Expedited adoption of the proposed amendments will ensure that quality wiring is installed in customer premises and reduce network degradation. Requiring the identification of wiring type on the outer jacket will allow easy recognition of the proper wiring. BICSI is also proposing that all connectors be identified, per the standards, as a further assurance of the quality of the wiring system installed on the customer's premises.

Respectfully submitted,

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Proposed Amendment

Section 47 C.F.R. 68.213(c) should be amended as follows:

(c) Material Requirements

Insert a new subsection (i) as follows:

(i) Conductors shall be solid, 24 gauge or larger, twisted copper pairs which comply with the electrical specifications for Category 3 or higher as defined in the ANSI EIA/TIA Building Wiring Standards.⁷

Insert as subsection (ii) the full text of the present Section 68.213(c).

Insert the following new subsection (iii):

(iii) All wire and connectors meeting the requirements set forth in subparagraphs (i) and (ii) above shall be marked visibly to the consumer, as recommended in the ANSI EIA/TIA premises cabling standards.⁸

⁷ ANSI EIA/TIA 568A Commercial Building Telecommunications Cabling Standard and ANSI EIA/TIA 570 Residential and Light Commercial Premises Wiring Standard.

⁸ *Id.*