

**Southwestern Bell**

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

February 5, 1993

**Richard C. Hartgrove**  
General Attorney

Mr. William A. Blase, Jr.  
Director-Federal Regulatory  
Southwestern Bell Corporation  
1667 K Street, N.W., Suite 1000  
Washington, D.C. 20006

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Dear Bill:

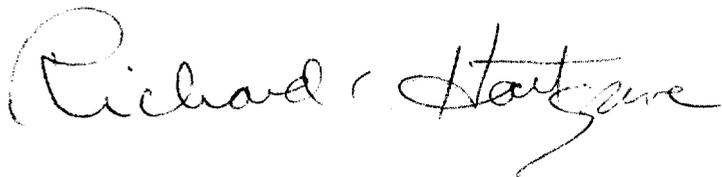
Re: Comments of Southwestern Bell Telephone  
Company, RM-8158

Enclosed please find an original and five (5) copies of the above-referenced pleading to be filed with the Secretary of the Commission on Monday, February 8, 1993. Also enclosed is a copy of the pleading to be filed-stamped and returned to me.

Additional copies of the pleading are attached to be used as the courtesy copies and one is included for your files.

Please call to confirm that the pleading has been filed. Thank you for your assistance.

Very truly yours,



Enclosure

1010 Pine Street  
St. Louis, MO 63101

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BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554

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In the Matter of )  
 )  
VERILINK CORPORATION )  
 )  
Petition for Rulemaking to Amend )  
the Commission's Part 68 Rules )  
to Authorize Regulated Carriers )  
to Provide Certain Line Build Out )  
Functionality as a Part of Regulated )  
Network Equipment on Customer Premises )

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

RM-8158

TO: The Commission

COMMENTS OF SOUTHWESTERN BELL TELEPHONE COMPANY

Southwestern Bell Telephone Company ("SWBT"), by its attorneys and pursuant to the Commission's January 8, 1993 Public Notice, respectfully submits its Comments in the above-captioned proceeding. In its Petition for Rulemaking ("PFR"), Verilink Corporation ("Verilink") proposes that the Commission amend Part 68 of its rules<sup>1</sup> to authorize line build out ("LBO") functionality to be provided in the transmission path of 1.544 Mbps ("DS1") services as a component of regulated network interface equipment located on customer premises. If adopted, Verilink's proposal would allow SWBT and other carriers to more efficiently ensure that the signal received by the customer would have the best transmission quality, at no incremental cost to the customer and without any adverse impact on CPE competition. Thus, SWBT supports Verilink's proposal and urges the Commission to adopt it.

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<sup>1</sup> 47 C.F.R. Section 68, et seq.

## I. INTRODUCTION

As the Commission has observed, LBO attenuates strong signals emitted by CPE where the distance between regenerators or between a regenerator and the transmit/receive equipment may be short. LBO attenuation prevents signal power delivered by the CPE source device into the telephone network from being too high for the network transport media to handle.<sup>2</sup> Signal power exceeding acceptable levels often produces crosstalk, a recognized "harm" to the network.<sup>3</sup>

Most pre-Computer Inquiry II<sup>4</sup> network channel terminating equipment ("NCTE") included LBO capability. In Interconnection Order I, the Commission unbundled and detariffed NCTE from network facilities.<sup>5</sup> In Interconnection Order II, the Commission concluded that LBO should remain a CPE feature, and that the telephone company should instruct the NCTE installer on the appropriate signal level option prior to commencing service (i.e., the "joint

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<sup>2</sup> In the Matter of BellSouth's Petition for Declaratory Ruling or, Alternatively, Request for Limited Waiver of the CPE Rules to Provide Line Build Out Functionality as a Component of Regulated Network Interface Connectors on Customer Premises ("BellSouth Order"), 6 FCC Rcd 3336 (1991), at para. 2.

<sup>3</sup> 47 C.F.R. Section 68.3(g): BellSouth Order at 3342, para. 24.

<sup>4</sup> Amendment of Section 64.702 of the Commission's Rules and Regulations ("Computer II"), 77 FCC 2d 384 ("Final Decision"), recon., 84 FCC 2d 50 (1980), further recon., 88 FCC 2d 512 (1981), aff'd sub nom., Computer and Communications Industry Assoc. v. FCC, 693 F.2d 198 (D.C. Cir. 1982), cert. denied, 103 S. Ct. 2109 (1983), second further recon., FCC 84-190, released May 4, 1984.

<sup>5</sup> Amendment of the Commission's Rules Concerning Connection of Equipment, Systems and Protective Apparatus to the Telephone Network ("Interconnection Order I"), 94 FCC 2d 5 (1983), recon. denied, FCC 84-145, released April 27, 1984.

engineering" requirement).<sup>6</sup> Currently, all NCTE registered under Part 68 of the Commission's rules must be capable of performing LBO functionality.<sup>7</sup>

While the Commission intended that LBO functionality should be a CPE-provided feature, it has stated an exception for LBO provided to perform loopback testing so long as the LBO functionality in NCTE is used only for that purpose.<sup>8</sup> SWBT presently provides LBO in the DS1 interface connector to provide such loopback testing.

In its BellSouth Order, the Commission stated that any party wishing to propose network provision of LBO for another purpose should carefully analyze the effects of such provision.<sup>9</sup> Verilink's PFR succinctly analyzes these effects and provides compelling reasons to allow LBO to be provided as a component of regulated network interface connectors in the provision of DS1 services.

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<sup>6</sup> BellSouth Order at 3342, para. 24; Amendment of the Commission's Rules Concerning Connection of Equipment, Systems and Protective Apparatus to the Telephone Network ("Interconnection Order II"), 49 Fed. Reg. 48714, released December 14, 1984, at 48715, paras. 4-7, recon., FCC 85-564, released October 25, 1985.

<sup>7</sup> See, 47 C.F.R. Section 68.308(h)(2)(ii), which states that registered terminal equipment connecting to DS1 services must be capable of optionally delivering three sizes of output pulses, each of which shall be selectable at the time of installation.

<sup>8</sup> Amendment to Section 64.702 of the Commission's Rules and Regulations ("Computer III"), Report and Order ("Computer III, Phase II Order"), 2 FCC Rcd. 3072, 3105 at para. 232.

<sup>9</sup> BellSouth Order at 3343, para. 30.

II. LBO SHOULD BE PROVIDED IN THE TRANSMISSION PATH OF DS1 AS A COMPONENT OF REGULATED NETWORK INTERFACE CONNECTORS.

Several efficiency and cost considerations favor adopting Verilink's proposal. The proposal is consistent with industry standards, would eliminate the burdensome "joint engineering" requirement, and could reduce CPE users' overall costs -- without any adverse impact upon CPE competition.

As Verilink notes,<sup>10</sup> ANSI Standard T1.403<sup>11</sup> calls for a uniform signal level, as defined by a single pulse template, to be transmitted from the NCTE to the network interface. It requires that the signal delivered to the network interface be a minimum 2 volt peak amplitude signal after allowing for some loss/degradation by customer premises wiring. The standard also provides for a technology-independent interface so that regardless of the transmission media provided by the serving carrier, the CPE customer will always provide the network with the same signal output power level.<sup>12</sup> SWBT currently provides a standard DS1 signal which meets the criteria of ANSI Standard T1.403. Revision of the Commission's rules in the manner requested by Verilink would be consistent with ANSI T1.403 because it would eliminate the requirement for LBO functionality in CPE.<sup>13</sup>

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<sup>10</sup> Verilink PFR at 5.

<sup>11</sup> American National Standards Institute, Standard for Telecommunications--Carrier to Customer Installation--DS 1 Metallic Interface ("ANSI Standard T1.403").

<sup>12</sup> Verilink PFR at 12.

<sup>13</sup> Id. at 13.

The joint engineering requirement unnecessarily places responsibility for signal level coordination on the telephone company and the customer. If LBO were provided at the network interface, carriers could ensure that the signal power received from customers would consistently meet the network's signal power coordination requirements without any need to coordinate such provisioning with customers.

Lifting the joint engineering requirement would benefit carriers, CPE users and CPE vendors. For example, Verilink observes, and SWBT agrees, that some customers attempt to adjust signal power without the necessary technical knowledge or experience. As Verilink notes, "[t]he requirement that customers adjust and tinker with their equipment often leads to unintentional and unpredictable difficulties, including the inadvertent adjustment of other equipment settings and knobs to compensate for LBO misadjustment and disruption of service to third parties."<sup>14</sup> Such occurrences generate time-consuming trouble reports and service calls. These and other resultant costs to carriers, CPE users and CPE vendors are unnecessary and would be alleviated by allowing network provision of LBO at the network interface.

Furthermore, allowing LBO as a network function could reduce CPE users' initial purchase costs. Verilink opines that CSU prices would be reduced by \$3-\$7 if a reduction of production and

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<sup>14</sup> Id. at 15. In addition, SWBT is presently unable to ensure that the signal received from the customer will meet the network's signal power requirements because the customer can independently modify the signal power beyond acceptable limits. Absent a rule change consistent with ANSI Standard T1.403, the customer will remain free to modify the signal power, thus impeding the standard's effectiveness.

testing costs were realized as a result of eliminating redundant components and switches in CPE devices.<sup>15</sup> Moreover, no known increased network costs to the customer would result. As Verilink notes, the same functionality already used by the carrier for loopback testing can be utilized to provide signal level attenuation for customer generated signals.<sup>16</sup>

Finally, Verilink states that its proposal would not impede any CPE manufacturer's competitive position and, in fact, would eliminate substantial inefficiencies and unnecessary costs.<sup>17</sup> This factor is particularly significant given that the Commission's express intention to limit exceptions to CPE treatment of NCTE functionalities was meant to encourage a flourishing competitive market for CPE.<sup>18</sup> Verilink foresees no threat to its own competitive self-interest as a CPE manufacturer should the Commission adopt the proposal it has initiated.

In short, Verilink's PFR presents a distinct "win-win-win" opportunity for affected carriers, customers and CPE manufacturers.

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<sup>15</sup> Id. at 11.

<sup>16</sup> Id. To fairly rely on LBO for signal power coordination, LBO must be used for both CPE-originated signals and looped test signals. Use of a common LBO in a "smart jack" device will ensure that both types of signals undergo the same conditioning. These efficiencies cannot be attained if LBO is provided through unregulated CPE.

<sup>17</sup> Id. at 14.

<sup>18</sup> Computer III Phase II Reconsideration Order, 3 FCC Rcd. at 1167, para. 140.

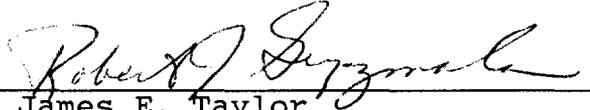
III. CONCLUSION

By providing LBO in regulated network interface equipment located at customer premises, carriers could ensure that the signal received by the customer was of the best possible transmission quality. Customers would not pay any additional network costs and could enjoy reduced overall costs as a result of lowered CPE prices and elimination of unnecessary service calls. CPE manufacturers would suffer no competitive harm and could enjoy reduced testing, production, maintenance and service call costs. Thus, Verilink's PFR should be granted.

Respectfully submitted,

SOUTHWESTERN BELL TELEPHONE COMPANY

By



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February 8, 1993

CERTIFICATE OF SERVICE

I, Gigi Renaud, hereby certify that the foregoing "Comments of Southwestern Bell Telephone Company" in Docket No. RM-8158, has been served this 8th day of February, 1993 to the Parties of Record.

A handwritten signature in cursive script, reading "Gigi Renaud", is written over a horizontal line.

Gigi Renaud

February 8, 1993

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