BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

In the Matter of the Petition of DIECA Communications, Inc. d/b/a Covad Communications Company for Arbitration of Interconnection Rates, Terms, Conditions and Related Arrangements With Southwestern Bell Telephone Company	))))))	Case No. TO-2000-322

DIRECT TESTIMONY OF BERNARD CHAO

I. INTRODUCTION

Q. Please state your name and your position.

A. My name is Bernard Chao. I am the Vice President of Legal Strategy at Covad Communications Company. Among my duties, I have been responsible for obtaining Interconnection Agreements with Southwestern Bell Telephone Company in Missouri and Kansas. I was the lead negotiator for Covad in these two states.

Q. What is the purpose of your testimony?

A. My testimony covers two general topics. First, I explain why SWBT's proposed policy on technical publications is unacceptable. Second, I will explain why SWBT will not longer incur certain specific costs when providing service to Covad based on certain regulatory decisions and agreements between Covad and SWBT.

II. TECHNICAL PUBLICATIONS

Q. What is a technical publication?

A. To the best of my understanding SWBT publishes a series of "Technical Publications" regarding a variety of topics including collocation, DSL loops and ordering. These technical publications are referenced throughout the terms of the undisputed portions of the Interconnection Agreement.

Q. Does Covad object to the concept of "Technical Publications"?

A. Not at all. Technical publications can be an effective vehicle for communicating information to CLECs like Covad. Indeed, these publications explain such things as how to order specific unbundled network elements and can be very useful.

Q. What precisely is Covad's objection?

A. SWBT is insisting on having the right to make substantive modifications in these technical publications and have them bind Covad. In effect, SWBT is asking for the right to unilaterally change the interconnection agreement and the parties' corresponding rights and obligations. Covad cannot agree to this. Obviously, by definition, an agreement has to be by consent of both parties.

Q. Doesn't SWBT have the right to change its own technical publications?

A. Yes, if the technical publications were merely informational, and did not "bind" Covad. SWBT, however, desires to bind Covad when it makes modifications to its technical publications. Even then, Covad has no objections so long as those changes are procedural or non-substantive. For example, Covad does not object to SWBT changing methods and procedures for doing business such as ordering, hours of business, which kind of technician is assigned particular kinds of work, to whom communications should be sent, where power in central office is located etc. Covad is not trying and has no incentive to manage SWBT's business.

Q. Has SWBT ever used technical publications in the past to make substantive changes?

A. Yes, such changes are a real danger. Initially, SWBT's sister company, Pacific Bell tried to ban entire technologies by unilaterally issuing new technical publications even though Covad's interconnection agreement with Pacific Bell had substantively different terms and conditions governing spectral interference.

SWBT also issued a number of technical publications that contained discriminatory spectrum management policies. Eventually, the DSL CLECs had those unilateral policies thrown out by the FCC (March 31, 1999 First Report and Order at para. 65-77, CC Docket No.99-48 and November 18, 1999 Third Report at ¶¶178-220 CC Docket No. 98-147, 96-98) and the Texas Public Utilities Commission Arbitration Award (Docket Nos. 20226 and 20272, November 30, 1999)[1].

It is precisely this type of unpredictable unilateral policy that Covad fears. Covad simply cannot afford to seek relief from the PUC or the FCC every time SWBT makes an unacceptable substantive change to its interconnection obligations.

Q. Can you simply provide a list of all modifications that would be considered "substantive" to give SWBT more certainty as it changes policy?

A. Unfortunately, no. There are a few categories that are easy. For example, changes that affect intervals and pricing are clearly substantive. However, spectrum management is a

[1] The non-confidential version of the Texas Arbitration Award is attached hereto as Exhibit A.

category that Covad simply could not have anticipated. Similarly, Covad cannot anticipate all the other policy changes SWBT may wish to implement in this quickly evolving industry.

Q. How is Covad asking the Commission to rule?

A. Covad is simply asking the Commission to rule that SWBT cannot make SUBSTANTIVE changes to its technical publications that will bind Covad. In particular Covad would like to have a term in the general terms and conditions that states: Modifications to SWBT Technical Publications that attempt to modify substantive rights under this interconnection agreement will have no effect on the parties respects rights and obligations under this agreement.

Q. SWBT suggests that the issue of technical publication only affects collocation. Is that true?

A. No, although Covad has focused on the collocation and DSL appendix, Covad should not be bound by any substantive changes to technical publications.

III. COST INPUTS

Q. Did SWBT initially plan to use a spectrum management program as part of their loop qualification process?

A. Yes, SWBT had an extremely aggressive spectrum management plan that it initially labeled binder group management (BGM). Later, SWBT called that plan selective feeder separation (SFS).

Q. Did SWBT include labor to implement its spectrum management plan in its costs studies?

A. Yes, whenever you see a reference to checking for "disturbers", that description relates to SWBT's spectrum management plan.

Q. Since the cost studies were created, has SWBT agreed to dismantle its spectrum management plan?

A. Yes, the undisputed portion of the Covad/SWBT Interconnection Agreement specifically prohibits SWBT from using its SFS program. That language is found in the DSL Appendix

already agreed to by the parties. Furthermore, as I mentioned a earlier, both the FCC and the Texas Commission have ordered SWBT to abandon Selective Feeder Separation/Binder Group Management.

Q. Should Covad pay for labor associated with SFS as part of the loop qualification charge?

A. Obviously not. Covad should not pay for costs that are not incurred.

Q. Are their any other costs that SWBT should not incur?

A. Yes, Covad should not have to pay for qualification charges that assume a manual interface. The Texas Commission has ordered SWBT to develop and deploy enhancements that will allow CLECs, including Covad, to have real-time electronic access to loop qualification information. SWBT is ordered to fully mechanize as soon possible and must be so mechanized by June 1, 2000. In Missouri, SWBT has agreed to develop and deploy the same enhancements, but has yet committed to a time frame. One would assume that mechanization in Missouri will occur concurrently with, or least shortly after, the implementation of the same process in Texas. Public Utility Commission of Texas, Arbitration Award, Docket Nos. 20226 and 20272, November 30, 1999, at 62 attached hereto as Exhibit A.

Q. Does this conclude your testimony?

A. Yes. However, I may offer rebuttal testimony.

VERIFICATION

STATE OF CA)
) SS:
COUNTY OF Santa Clara)

Comes now Bernard H. Chao, being of lawful age and duly sworn, who states that he is the witness who has provided the foregoing testimony, that he has prepared and read the foregoing testimony, and that the information contained therein is true and accurate to the best of his knowledge and belief.

Subscribed and sworn to before me on this 6th day of January, 2000.

Notary Public

My commission expires: 9/20/02

BLAKE ALEXANDER
Commission # 1196678
Notary Public - California
Santa Clara County
My Comm. Expires Sep 20, 2002

DOCKET NO. 20226

PETITION OF RHYTHMS LINKS, INC. FOR ARBITRATION TO ESTABLISH AN INTERCONNECTION AGREEMENT WITH SOUTHWESTERN BELL TELEPHONE COMPANY	§ § § § §	PUBLIC UTILITY COMMISSION OF TEXAS

DOCKET NO. 20272

PETITION OF DIECA COMMUNICATIONS, INC., d/b/a COVAD COMMUNICATIONS COMPANY FOR ARBITRATION OF INTERCONNECTION RATES, TERMS, CONDITIONS AND RELATED ARRANGEMENTS WITH SOUTHWESTERN BELL TELEPHONE COMPANY	§ § § § § § § §	PUBLIC UTILITY COMMISSION OF TEXAS

ARBITRATION AWARD

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Attachment B:	Confidential References in Award (CONFIDENTIAL)
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Attachment E:	Revised Conditioning Cost Study for xDSL Loops at or in Excess of 18,000 Feet in Length (CONFIDENTIAL)

I. SUMMARY OF PROCEEDINGS

On December 11, 1998, and December 21, 1998, Accelerated Communications, Inc. (Rhythms)[1] and DIECA Communications, Inc. d/b/a Covad Communications Company (Covad), respectively (collectively referred to as Petitioners), filed petitions[2] to establish interconnection agreements with Southwestern Bell Telephone Company (SWBT) pursuant to section 252(b) of the federal Telecommunications Act of 1996 (FTA).[3] In order to reduce administrative burdens, the two petitions were consolidated under FTA § 252(g). The hearing on the merits convened on April 14, 1999, and continued through April 16, 1999, at which time the Arbitrators recessed the hearing for six weeks to allow the Parties time to conduct further discovery after it was determined that SWBT had not fully responded to Petitioners' discovery requests.

Following the Arbitrators' decision to extend the discovery period, Petitioners requested an interim order requiring interconnection to prevent any delay in Petitioners' entry into the Texas xDSL market.[4] The Arbitrators issued an interim order,[5] which was subsequently appealed by SWBT.[6] At the May 20, 1999 open meeting, the Commission encouraged the Parties to come to a timely agreement in order to implement the interim order. SWBT and Petitioners implemented interim interconnection agreements on June 2, 1999.

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[1] Accelerated Communications, Inc. (ACI) has since changed its name to Rhythms Links, Inc. (Rhythms), Letter to All Parties Re: Notice of Name Change to Rhythms Links (April 30, 1999); Order No. 24, Recognizing Name Change (Oct. 8, 1999). Throughout this Award, ACI will be referred to as Rhythms. References to pleadings shall reflect the actual name of the Party at the time they were filed.

[2] Petition of Accelerated Communications, Inc. for Arbitration to Establish an Interconnection Agreement with Southwestern Bell Telephone Company, Docket No. 20226 (Dec. 11, 1998); Petition of DIECA Communications, Inc., d/b/a Covad Communications Company for Arbitration of Interconnection Rates, Terms, Conditions and Related Arrangements with Southwestern Bell Telephone Company, Docket No. 20272 (Dec. 21, 1998).

[3] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, codified at 47 U.S.C. §§ 151 et seq. (FTA).

[4] ACI's Letter to Judges Farroba and Curry Regarding an Interim Order (April 16, 1999); List of Interim Steps the Commission Should Require SWBT to Implement to Prevent the Delay in the Arbitration from Further Delaying Covad's Ability to Bring Competitive DSL Services to Texas (April 21, 1999).

[5] Order No. 5, Interim Order (April 26, 1999).

[6] SWBT's Appeal of Order No. 5 Interim Order (May 11, 1999).

Following the six-week recess, the hearing on the merits reconvened on June 2, 1999, continuing until completed on June 5, 1999.

This arbitration proceeding has been conducted in accordance with P.U.C. PROC. R. 22.301 - 22.310. The scope of the issues addressed in this arbitration proceeding is limited to the decision point list (DPL)[7] developed by the Parties.

Ruling on Disputed Issues

The issues in the final DPL are grouped into the following six areas: (1) policy, terms and conditions; (2) spectrum management; (3) provisioning; (4) collocation; (5) costs, rates and prices; and (6) miscellaneous. In this Award, each DPL issue is restated, along with a brief summary of the Parties' positions, followed by the Arbitrators' ruling. As required by P.U.C. PROC. R. 22.305(s), an explanation of the Arbitrators' rationale for each of the rulings is provided.

The Arbitrators find that the following decisions and rates, terms and conditions imposed on the Parties by this Award meet the requirements of FTA § 251 and P.U.C. PROC. R. 22.301-22.310 and any applicable regulation prescribed by the Federal Communications Commission (FCC) pursuant to FTA § 251. This Award establishes terms and conditions, including rates, for interconnection, services, and network elements according to the standards set forth in FTA § 252(d). A schedule for implementation of the rates, terms and conditions of this Award is set forth in Section VIII.

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[7] Revised Decision Point Matrix (DPL) (May 28, 1999).

I. Policy, Terms and Conditions

DPL Issue Nos. 1-7, 9-10

1. How should a 2-wire xDSL capable loop be defined?

Parties' Positions

Rhythms asserts that SWBT must be ordered to provide a single type of "clean copper" xDSL UNE loop, on which Rhythms can deploy any xDSL technology permitted by the *Advanced Services Order*[8] and/or any order of this Commission.[9] Rhythms' proposed DSL-capable loop is described as follows:[10]

- The loop should be a clean copper loop, with no load coils and a minimum of bridge taps of up to 2,500 feet;
- The loop may contain repeaters at Rhythms' option;
- For DSL services other than IDSL, the loop cannot be part of a digital loop carrier system ("DLC");
- The loop cannot have Digital Added Main Line ("DAML") technology;
- The loop cannot be "categorized" based on loop length in an attempt to impose an artificial restriction on service placed over the loop and artificial limitations cannot be placed on the length of DSL-capable UNE loops;
- The loop should be provisioned to meet basic metallic and electrical characteristics such as electrical conductivity and capacitive and resistance balance; and
- If SWBT is allowed to place limitations on the loop type and xDSL services, it must comply with existing or future national standards as articulated by the American National Standards Institute ("ANSI"), or other national forum, and SWBT cannot restrict Rhythms' use of the loop within these standards.

Rhythms' proposed definition of a 2-wire xDSL Capable Loop is:

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[8] *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, First Report and Order and Further Notice of Proposed Rulemaking, FCC 98-48, (rel. Mar. 31, 1999) (*Advanced Services Order*).

[9] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 14-18 (Feb. 19, 1999).

[10] *Id.* at 1718; ACI's Post-Hearing Brief at 17-26 (Aug. 17, 1999).

> A "2-wire xDSL Capable Loop" for purposes of this Section is a loop from a customer premises to a SWBT Central Office, provisioned using copper facilities from the customer premises to the SWBT Central Office. The loop will have no load coils, and minimal bridge tap up to 2,500 feet. The loop may contain repeaters at [Rhythms'] option. If a portion of the loop must be provisioned using fiber optic facilities due to the exhaustion of copper facilities, even after regrooming, [Rhythms] shall have the right to place appropriate equipment, such as digital subscriber line access multiplexing equipment, at the fiber/copper interface point in SWBT's loop plant. The Parties acknowledge that [Rhythms] may use a variety of xDSL technologies to provision services using a 2-wire xDSL-Capable Loop.[11]

According to Rhythms, this "one size fits all" clean copper loop will promote innovation and customer choice.[12] Rhythms objects to SWBT's proposed seven different xDSL-Capable loop offerings. Rhythms argues that SWBT's proposed language violates the *Advanced Services Order* because a single loop type for xDSL services is technically feasible.[13]

In addition to the disagreement regarding the provision of "one size fits all" xDSL loops, Rhythms opposes SWBT's inclusion of language regarding spectrum compatibility and management in the definition of the 2-Wire xDSL-Capable Loop.[14] Rhythms further argues that SWBT should be required to perform a "line and station transfer" in the event that a potential Rhythms customer is served on a loop that contains fiber optic facilities (DLC or DAML), in order to allow another copper pair, if available, to extend directly to the customer.

Covad's proposed definition is:

> A 2-wire xDSL capable loop (xDSL Loop) for purposes of this Section, is a loop which supports the transmission of Digital Subscriber Line (DSL) technologies. The loop is a transmission path from a customer premises to a SWBT Central office where a CLEC has located appropriate associated equipment, including a cross connect cable from the Main Distributing Frame (MDF) to the associated equipment point of termination. The loop is an upgrade to the Basic Link having

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[11] First Amended Petition of ACI, Attachment 6 (Jan. 22, 1999).

[12] ACI's Post-Hearing Brief at 22 (Aug. 17, 1999).

[13] *Id.* at 24 (Aug. 17, 1999); ACI Exhibit 9, Rebuttal Testimony of Mike Kersh at 6-7 (April 8, 1999).

[14] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 28-32 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 20 (Feb. 19, 1999). Spectrum management and compatibility issues are discussed in Section III of this Award.

> no mid-span repeaters or other electronics and no greater loss than 38dB end-to-end measured at 40,000 Hz with 135 ohms at the central office POI and 135 ohms at the MPOE. This loop will not have any load coils or bridged taps within limits defined by the specification applicable to ISDN loops.[15]

Covad contends that in order to provision most of its xDSL services, including ADSL and SDSL, it "merely needs a clean copper loop that is not too long."[16] Currently, Covad requires loops that are less than 15,000 feet in length, unless providing IDSL, for which Covad can provision service over loops up to 40,000 feet in length.[17]

SWBT's amended proposed definition is:

> The term digital subscriber line ("DSL") describes various technologies and services. The "x" in xDSL is a place holder for the various types of DSL services, such as ADSL (asymmetric digital subscriber line), HDSL (high-speed digital subscriber line), UDSL (universal digital subscriber line), VDSL (very high-speed digital subscriber line), and RADSL (rate-adaptive digital subscriber line). The provision of DSL services is subject to a variety of important technical constraints, including subscriber loop length and the quality of the loop, which must be free of excessive bridged taps, loading coils, and other devices commonly used to aid in the provision of analog voice and data transmission, but which interfere with the provision of DSL services. In addition, clear spectral compatibility standards and spectrum management rules and practices are necessary both to foster competitive deployment of innovative technologies and to ensure the quality and reliability of the public telephone network. The Parties will comply with the FCC's rules on spectrum compatibility and management that enable the reasonable and safe deployment of advanced services prior to the development of industry standards.[18]

At the time the initial request for arbitration was filed, SWBT proposed a definition that Petitioners interpreted to limit them to the provision of only ADSL service over xDSL loops. On March 30, 1999, SWBT amended its proposed contract language, explaining that the xDSL loop

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[15] First Amended Petition of Covad, Proposed Contract Language (Jan. 20, 1999).

[16] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 5 (Feb. 19, 1999).

[17] *Id.* at 6.

[18] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh, Schedule 2, Section I (March 30, 1999).

offering was being expanded to allow competitive local exchange carriers (CLECs) to deliver a variety of high-speed data access options over SWBT's network.[19]

In addition to the basic proposed definition above, SWBT's revised contract language proposal contains seven different xDSL-Capable loop offerings, as follows:[20]

A. xDSL-Capable Loops used with xDSL Technology which complies with Existing Industry Standards.
    1. 2-Wire ADSL-Capable loop
    2. 2-Wire Very Low-band Symmetric Technology Capable Loop
    3. 2-Wire Mid-band Symmetric Technology Capable Loop
    4. 4-Wire Mid-band Symmetric Technology Capable Loop
    5. Other Industry Standard DSL-capable loops

B. Non-Standard DSL-Capable Loops.
    1. Approved or successfully deployed non-standard xDSL technologies
    2. Other Non-standard xDSL technologies

SWBT maintains that it must define these seven loop types in order to allow CLECs to efficiently obtain loops for chosen xDSL services while still allowing SWBT to meet its obligations to inventory and manage the network. SWBT opposes any attempt by a CLEC to obtain a universal xDSL "clean copper loop," asserting that such requests are simplistic and erroneous.[21] According to SWBT witness Mr. Deere, SWBT does not agree with Rhythms' definition of a clean copper loop, since SWBT believes "that the interference is a major component of providing a loop that is capable of providing services."[22]

SWBT disagrees with Petitioners' proposed loop definitions that allow Petitioners to place digital subscriber line access multiplexing (DSLAM) equipment outside of the central office, at the fiber/copper interface point. SWBT indicates that ADSL loops may be available out of remote terminal (RT) sites, but that SWBT will have to work with CLECs to identify

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[19] *Id.* at 7.

[20] *Id.* at Schedule 2, Section II-A and II-B.

[21] SWBT Exhibit 5, Direct Testimony of V. Allen Samson at 5 (Feb. 19, 1999).

[22] Tr. at 72 (April 14, 1999).

crosstalk and interference issues associated with RTs.[23] This issue is further addressed in DPL Issue No. 6.

Award

To evaluate the definition of an xDSL-capable loop, the Arbitrators begin with the definition of a local loop UNE. In the 1996 *Local Competition First Report and Order*,[24] the FCC concluded that "the local loop element should be defined as a transmission facility between a distribution frame, or its equivalent, in an incumbent LEC central office, and the network interface device at the customer premises." The FCC further found that this definition "includes, for example, two-wire and four-wire analog voice-grade loops, and two-wire and four-wire loops that are conditioned to transmit the digital signals needed to provide services such as ISDN, ADSL, HDSL, and DS1-level signals."[25]

In ¶¶ 383 and 384 of the *Local Competition First Report and Order*, the FCC further found that it is technically feasible to unbundle IDLC-delivered loops. The FCC stated:

> . . . incumbent LECs must provide competitors with access to unbundled loop types regardless of whether the incumbent LEC uses integrated digital loop carrier technology, or similar remote concentration devices, for the particular loop sought by the competitor. . . . If we did note require incumbent LECs to unbundle IDLC-delivered loops, end users served by such technologies would not have the same choice of competing providers as end users served by other loop types. Further, such an exception would encourage incumbent LECs to "hide" loops from competitors through the use of IDLC technology.

In its recent *UNE Remand Order*,[26] the FCC described DSL-capable loops as "loops capable of providing high-speed data services," "basic loops stripped of accreted devices, *i.e.*,

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[23] SWBT Exhibit 2, Direct Testimony of William C. Deere at 21 (Feb. 19, 1999); SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 18 (April 8, 1999).

[24] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, FCC 96-325 (rel. Aug. 8, 1996) (*Local Competition First Report and Order*).

[25] *Local Competition First Report and Order* at ¶ 380.

[26] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, FCC 99-238 (rel. Nov. 5, 1999) (*UNE Remand Order*).

'conditioned' loops," "unencumbered copper wire," and "basic loops, with their full capacity preserved."[27]

The Arbitrators find that SWBT should not be allowed to limit the capabilities of xDSL services on an xDSL loop through unnecessarily complex definitions and restrictions. FTA § 706 requires the FCC and state commissions to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans ... by utilizing, in a manner consistent with the public interest, ... measures that promote competition in the local telecommunications market ... "[28] The competitive provisioning of xDSL services appears consistent with Congressional intent regarding innovation of advanced services. Arbitrary restrictions or restrictions unilaterally imposed by an ILEC should not be placed on the type of services that may be provisioned using copper loops. However, the Arbitrators find that the technologies deployed on copper loops must be in compliance with relevant national industry standards and/or requirements established during this Commission's § 271 proceeding, *e.g.*, standards set by the § 271 DSL Working Group.[29]

The Arbitrators find that SWBT provided no compelling evidence for its categorization of loop types, other than the distinction between 2-wire and 4-wire loops, which is not a disputed issue. SWBT bases its categorization on spectrum management issues, but provides no clear rebuttal to proposals that many types of xDSL technology can be placed on precisely the same "clean" copper pair. The Arbitrators do not believe that SWBT has demonstrated that Rhythms' "one size fits all" concept will not work, and find that a single xDSL capable UNE loop type is technically feasible, and is efficient both timewise and economically. The Arbitrators find that SWBT must offer a "2-wire xDSL loop" and a "4-wire xDSL loop" and cannot require the use of multiple xDSL-Capable loop offerings like the seven it proposed in these proceedings. In

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[27] *UNE Remand Order* at ¶ 190.

[28] FTA § 706(a).

[29] *See* Project No. 16251, *Investigation of Southwestern Bell Telephone Company's Entry Into The Texas InterLATA Telecommunications Market*, Order No. 53, Approving Addition of DSL Attachment and Changes to Texas 271 Agreement (Sept. 22, 1999) ("T2A"). The § 271 DSL Working Group is referenced in Section 8.4 of Attachment 25 of the T2A. *See also* Project No. 16251, *Memorandum of Understanding*, filed by SWBT (Apr. 26, 1999) ("MOU").

addition, the Arbitrators find that the xDSL loop cannot be "categorized" based on loop length and limitations cannot be placed on the length of xDSL loops available to CLECs.

The Arbitrators find no reason to burden the definition of a "2-wire xDSL loop" with the complexities of spectrum compatibility and management. Nor should the definition of a "2-wire xDSL loop" include specifics regarding the issue of provisioning when fiber optic facilities are present, *e.g.*, remote placement of DSLAM equipment, "line and station transfers," sub-loop unbundling. Those issues are addressed separately in this Award, and the Parties should incorporate separately agreement language on those issues.

The Arbitrators, therefore, find that the definition of a "2-wire xDSL loop" shall be as follows:

> A 2-wire xDSL loop (xDSL Loop) for purposes of this section, is a loop that supports the transmission of Digital Subscriber Line (DSL) technologies. The loop is a dedicated transmission facility between a distribution frame, or its equivalent, in a SWBT central office and the network interface device at the customer premises. A copper loop used for such purposes will meet basic electrical standards such as metallic conductivity and capacitive and resistive balance, and will not include load coils or excessive bridged tap.[30] The loop may contain repeaters at [CLEC's] option. The loop cannot be "categorized" based on loop length and limitations cannot be placed on the length of xDSL loops. A portion of an xDSL loop may be provisioned using fiber optic facilities and necessary electronics to provide service in certain situations.

2(a). Can a clean copper loop support multiple xDSL technologies?

Parties' Positions

Rhythms contends that a clean copper loop can support many types of xDSL services, including ADSL, RADSL, SDSL, and HDSL technologies, and that IDSL can be deployed on copper or copper/fiber loop plant configurations.[31] Rhythms argues that there is no need for SWBT's elaborate binder group management (BGM) process, since xDSL technologies are

[30] Excessive bridged tap is defined as bridged tap in excess of 2,500 feet in length.

[31] ACI Exhibit 3, Direct Testimony of Rand Kennedy at 10-11 (Feb. 19, 1999).

designed to coexist with one another.[32] Rhythms contends that this has been proven in multiple jurisdictions, including California, Illinois, Massachusetts, and New York. Furthermore, Rhythms adds that deployment is imminent in New Jersey, Pennsylvania, Maryland, Virginia, and the District of Columbia.[33]

Rhythms insists that it does not seek a guarantee that the service it chooses to connect to the clean copper loop will work in all cases, or that it will be able to achieve a particular transmission rate. Rhythms seeks only a guarantee that the loop provided will be free of shorts, opens, or grounds, and that it will have acceptable metallic and electrical characteristics, including electrical conductivity and capacitive and resistive balance.[34]

Covad declares that it needs clean copper loops to deploy ADSL, SDSL, and IDSL in Texas.[35] Covad indicates that it is currently providing SDSL, IDSL, and ADSL services in Washington, California, New York, Massachusetts, Virginia, Maryland, Pennsylvania, New Jersey, Illinois, Michigan, and Washington, D.C.[36]

SWBT asserts that a "clean copper loop" is not a standard design facility in a traditional telephone network.[37] SWBT indicates that loops exist in a binder group within a cable, and while some binder groups could support one xDSL technology alongside other services, a different xDSL technology on the same pair in that same binder group may not be supportable. SWBT claims that the issue goes beyond the theoretical "clean cooper loop" but exists in a real world where multiple service providers share limited resources. Effective use of those resources, according to SWBT witness Mr. Deere, requires identification of the types of technologies

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[32] ACI Exhibit 4, Direct Testimony of Philip Kyees at 7 (Feb. 19, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 6 (April 8, 1999).

[33] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 12 (Feb. 19, 1999).

[34] ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 8-9 (April 8, 1999); ACI Exhibit 4, Direct Testimony of Philip Kyees at 6 (Feb. 19, 1999).

[35] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 5 (Feb. 19, 1999).

[36] Covad Exhibit 1, Direct Testimony of Charles A. Haas at 9 (Feb. 19, 1999); Tr. at 1169 (June 4, 1999).

[37] SWBT Exhibit 5, Direct Testimony of V. Allen Samson at 5 (Feb. 19, 1999).

supportable, the effect of those technologies, and then management of the outside plant to maximize service availability. It is SWBT's position that copper loops can be conditioned and managed to support multiple technologies only if those technologies are defined, inventoried separately, and managed according to appropriate spectrum guidelines.[38] SWBT therefore proposes that Petitioners be required to order from seven different xDSL loop types as defined by SWBT.

Award

The Arbitrators are not persuaded by SWBT's argument that various types of xDSL services cannot work on the same basic copper loop. SWBT's argument focuses instead on the categorization of services provided on these loops in order to manage spectrum and conditioning. Further, SWBT's categorization proposal is inefficient and unnecessary, and could lead to delays in and barriers to CLEC deployment of xDSL. Requiring Petitioners to order from seven different loop types as determined by SWBT has the potential to cause delay in the wholesale ordering and provisioning process.

The Arbitrators are concerned that SWBT has shown a clear tendency to oppose provision of multiple xDSL technologies provided by CLECs on SWBT's unbundled facilities. As an example, the following communication took place between SBC employees on March 16, 1998:

> *Message from C. Yackle to M. Russell, J. Thurwalker (Mar. 16, 1998, 10:58 a.m.):* Mark – Once again we may need some guidelines. We can't manage a million different technologies. We must unbundle what we offer not everything that anyone can think up. Today we use ISDN, HDSL and ADSL. We need guidelines for these. Jim – Can we maintain a position that we don't provide unbundled loops for technologies that we do not use?
>
> *Response from J. Thurwalker (March 16, 1998, 1:03 p.m.):* Cliff – Generally speaking, we've successfully defended our position of not providing unbundled loops for services which we did not provide under the argument that the technology issues have not been addressed, and as such we don't know what it will do to our network fabric.

[38] SWBT Exhibit 2, Direct Testimony of William C. Deere at 18 (Feb. 19, 1999).

> *Response from C. Yackle (March 16, 1998, 1:07 p.m.):* I suspect that we should begin to seriously consider how we are going to react as different CLECs want to utilize different technologies in our cable plant. I know that we are all fixing to get very busy but a consistent well thought out approach could avoid another problem like we face with Covad and others in California.[39]

Another example of SWBT's desire to limit CLEC services can be found in the July 21, 1998 minutes of the Network Evolution for Data Services (NERDS) committee. *See* Confidential Attachment B, Paragraph A.

Petitioners have demonstrated that clean copper loops are currently supporting multiple xDSL technologies in other jurisdictions.[40] Further, the FCC provides direction on this issue when describing methods to foster competitive deployment of innovative technologies for advanced services.[41] The evidence in this proceeding indicates that a clean copper loop (without load coils, excessive bridged tap, and within a specific design length) can support multiple xDSL technologies. The language adopted in the award for DPL Issue No. 1 is sufficient for the provision of xDSL services without SWBT's proposed categorizations.

2(b). If so, is SWBT required to provide a loop that can support more DSL technologies than ADSL, at the option of the CLEC?

Parties' Positions

Rhythms asserts that there is no technical basis on which SWBT can legitimately restrict Rhythms' use of a loop as SWBT has proposed, so long as Rhythms' deployment of xDSL technology complies with relevant national standards.[42] Rhythms states that SWBT's proposal to submit new xDSL products to a third-party laboratory for testing would serve only to delay introduction of new technologies and services.[43]

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[39] Covad Exhibit 52.

[40] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 12 (Feb. 19, 1999); Covad Exhibit 1, Direct Testimony of Charles A. Haas at 9 (Feb. 19, 1999); Tr. at 1169 (June 4, 1999).

[41] *Advanced Services Order* at ¶ 63.

[42] ACI Exhibit 3, Direct Testimony of Rand Kennedy at 20 (Feb. 19, 1999).

[43] ACI Exhibit 6, Rebuttal Testimony of Eric H. Geis at 12 (Apr. 8, 1999).

Covad contends that SWBT should not be able to limit the types of xDSL provided by a CLEC, except as determined by standards bodies. Covad provides examples of other ILECs that currently permit Covad to provide multiple xDSL services over clean copper loops.[44] Covad also indicates that the language of the *Advanced Services Order* supports its position. Covad points out that its interconnection agreement with SWBT affiliate Pacific Bell permits Covad to provide any kind of xDSL service over clean copper loops in Covad's California operations.[45] In addition, Covad indicates that it has never received a complaint regarding spectrum problems from Pacific Bell.[46]

SWBT asserts that its proposed interconnection language offers loops that support xDSL technologies other than ADSL.[47] SWBT contends that it must be informed of the particular type of xDSL technologies and/or services being provisioned over the network, and further needs assurance that the power and frequency being placed on a specific SWBT unbundled loop do not exceed standards for that particular service.[48] SWBT explains that it seeks only to appropriately test (by SWBT or a third party) different technologies until the industry standards bodies agree upon national standards. In the interim, SWBT indicates that its proposed language offers the option of testing and defining parameters with the CLEC for other technologies to be deployed and appropriately inventoried for spectrum management purposes in the network.[49]

Award

The Arbitrators find that SWBT must provide a loop that can support any xDSL technology that is "presumed acceptable for deployment," as described by the FCC or this Commission. The FCC has stated that a technology is "presumed acceptable for deployment" if it: (a) complies with existing industry standards; (b) has been successfully deployed by any

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[44] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 9-11 (Feb. 19, 1999).

[45] Covad Exhibit 2, Direct Testimony of Druv Khanna at 26-27 (Feb. 19, 1999).

[46] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 11 (Feb. 19, 1999).

[47] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 7-8 (April 8, 1999).

[48] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbauh at 5 (Feb. 19, 1999).

carrier in any state without significantly degrading the performance of other services; or (c) has been approved by the FCC, any state commission, or an industry standards body.[50] A "non-standard xDSL-based technology" is a loop technology that is not presumed acceptable for deployment as defined in the previous sentence.

The Arbitrators further find that SWBT must provide a loop that is capable of supporting a non-standard xDSL technology, consistent with the conditions outlined in Attachment 25 of the Texas 271 Agreement (T2A).[51] Under those conditions, a CLEC may order loops to support a non-standard xDSL technology, for the provision of service in Texas on a trial basis for the 12-month period following the approval of the T2A, without the need to make any showing to the Commission or SWBT. Each technology trial shall not be deemed successful until it has been deployed without significant degradation for 12 months or until national standards have been established, whichever occurs first.

SWBT's plan to use testing to help define parameters for other technologies is no longer needed when considering the 12-month trial period established in the T2A. Therefore, SWBT's plan to await third party testing and national standards would only serve to impede rapid implementation of competitive xDSL services, and is therefore rejected by the Arbitrators.

In addition, the Arbitrators find that the deployment language contained in Sections 4.3.1 through 4.4.2.2 of Attachment 25 of the T2A, as adapted below (and coupled with the definitions of "presumed acceptable for deployment" and "non-standard xDSL-based technology" stated above), provides reasonable details for this DPL issue, and find that the following language should be included in the resulting Interconnection Agreements.

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[49] *Id.* at Schedule 2.

[50] *See Advanced Services Order* at ¶ 67.

[51] T2A, Attachment 25, Section 4.3 states:

> 4.3 For the 12-month period following the approval of this Agreement by the Commission, a CLEC may order loops other than those loop technologies presumed acceptable for deployment for the provision of service in Texas on a trial basis, without the need to make any showing to the Commission. Each technology trial will not be deemed successful until it has been deployed without significant degradation for 12 months or until national standards have been established, whichever occurs first.

4.3.1 CLEC's deployment of non-standard xDSL technologies during the 12 month trial period by itself shall not be deemed a successful deployment of the technology under the FCC's Order issued on March 31, 1999 in CC Docket No. 98-147, FCC 99-48.

4.3.2 If a loop technology is deployed without significant degradation for 12 months, or if national standards for the technology are established, whichever occurs first, the Parties should consider the technology to be presumed acceptable for deployment and treated accordingly. If there is dispute as to the successful deployment of the technology, either Party may submit the dispute for resolution to (1) the Public Utility Commission of Texas, (2) the FCC if or when it establishes dispute resolution procedures, or (3) alternative dispute resolution as may be agreed by the Parties.

4.4 Following expiration of the twelve month trial period, SWBT will not deny a requesting CLEC's right to deploy new xDSL technologies that do not conform to the national standards and have not yet been approved by a standards body (or otherwise authorized by the FCC, any state commission or which have not been successfully deployed by any carrier without significantly degrading the performance of other services) if the requesting CLEC can demonstrate to the Commission that the loop technology will not significantly degrade the performance of other advanced services or traditional voice band services.

4.4.1 Upon request by CLEC, SWBT will cooperate in the testing and deployment of new xDSL technologies or may direct the CLEC, at CLEC's expense, to a third party laboratory of CLEC's choice for such evaluation.

4.4.2 If it is demonstrated that the new xDSL technology will not significantly degrade the other advanced services or traditional voice based services, SWBT will provide a loop to support the new technology for CLEC as follows:

4.4.2.1 If the technology requires the use of a 2-Wire or 4-Wire xDSL loop [as defined in this Award], then SWBT will provide CLEC with the xDSL loop at the same rates listed for a 2-Wire or 4-Wire xDSL loop and associated loop conditioning as needed. SWBT's ordering procedures will remain the same for its 2-Wire or 4-Wire xDSL loop even though the xDSL loop is now capable of supporting a new xDSL technology.

4.4.2.2 In the unlikely event that a new xDSL technology requires a loop type that differs from that of a 2-Wire or 4-Wire xDSL loop [as defined in this Award], the Parties shall expend diligent efforts to arrive at an agreement as to the rates, terms and conditions for an unbundled loop capable of supporting the proposed xDSL technology. If negotiations fail, any dispute between the Parties concerning the rates, terms and conditions for an unbundled loop capable of supporting the proposed xDSL technology shall be resolved pursuant to the dispute resolution process provided for in this Agreement.

2(c). Should CLECs provisioning non standard technologies be obligated to indemnify and hold SWBT harmless for any claims arising due to any harm or degradation to any carrier or customer's service and/or to SWBT's or any third party's network or equipment.

Parties' Positions

Rhythms addresses this issue obliquely by maintaining that there is no evidence of any harm from xDSL deployment in other states, and that SWBT's proposed restrictions would only serve to limit customer choice and competitive activity.[52] Rhythms adds that it is also concerned about the integrity of its own services, as well as potential harm to the integrity of any carrier's network. Rhythms points out that it has been providing xDSL services in California since 1997, and is not aware of any interference problems caused by Rhythms' xDSL services.[53]

Covad argues that CLECs should not be responsible for such indemnification. According to Covad witness Mr. Khanna, the FCC's directive[54] regarding CLEC deployment of technology is unconditional.[55] If a CLEC wants to deploy a non-standard technology, the CLEC must meet the requirements of the *Advanced Services Order*.[56] If SWBT or a CLEC subsequently demonstrates that the deployment of any technology "significantly degrades"[57] the performance of another advanced service or voice-based service, then the carrier deploying that technology must stop and migrate its customers to technologies that do not cause such degradation.[58] Covad asserts that this is the only remedy available to SWBT for the deployment by CLECs of technology that otherwise meets the criteria of Paragraph 68 of the *Advanced Services Order*.

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[52] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 15 (Feb. 19, 1999).

[53] *Id.* at 16.

[54] *Advanced Services Order* at ¶ 67.

[55] Covad Exhibit 3, Rebuttal Testimony of Druv Khanna at 9-13 (Apr. 8, 1999).

[56] Covad Exhibit 3, Rebuttal Testimony of Druv Khanna at 9-10 (Apr. 8, 1999); *Advanced Services Order* at ¶ 69.

[57] The FCC has defined "significantly degrade" as an action that noticeably impairs a service from a user's perspective. *See Advanced Services Order* at n. 166.

[58] *Advanced Services Order* at ¶ 68.

Covad explains that all xDSL signals degrade other xDSL signals, but it is the degree of degradation that is at issue. According to Covad, SWBT's proposal for indemnification would always place liability on the "non-standard" service, even in a situation in which the carrier providing the "non-standard" service used prudent deployment rules, and the carrier providing the "standard" service did not use prudent deployment rules.[59]

SWBT's position is that CLECs should be responsible for any harm caused by the use of nonstandard technologies. On April 15, 1999, SWBT introduced a revised version of its proposed contract language regarding indemnification:

> Each Party agrees that should it cause any non-standard DSL technologies described in subsections II.B.1 and II.B.2 above to be deployed or used in connection with or on SWBT facilities, that Party ("the Indemnifying Party") will assume full and sole responsibility for any damage, service interruption or other telecommunications service degradation effects and will indemnify the other Party ("the Indemnified Party") for any damages to the Indemnified Party's facilities, as well as any other claims for damages, including but not limited to direct, indirect or consequential damages made upon the Indemnified Party by any provider of telecommunications services or telecommunications user (other than any claim for damages or losses alleged by an end-user of the Indemnified Party for which the Indemnified Party shall have sole responsibility and liability), when such arises out of, or results from, the use of such non-standard DSL technologies by the Indemnifying Party. Further, the Indemnifying Party agrees that it will undertake to defend the Indemnified Party against and assume payment for all costs or judgments arising out of any such claims made against the Indemnified Party.[60]

Award

The Arbitrators note that this issue has been recently addressed by this Commission in its adoption of the T2A. T2A Attachment 25, Sections 3.4 and 3.5, contain the liability and indemnification language shown below. In DPL Issue No. 2(b), the Arbitrators distinguished between technologies that are presumed acceptable for deployment and those that are considered non-standard. The Arbitrators find that the T2A language reasonably reflects the balance of liability required for the provision of non-standard xDSL services (*i.e.*, those not defined as

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[59] DPL at 7 (May 28, 1999).

"presumed acceptable for deployment"). Therefore, the following language should be incorporated into the resulting Interconnection Agreements:

> Each Party, whether a CLEC or SWBT, agrees that should it cause any non-standard xDSL technologies to be deployed or used in connection with or on SWBT facilities, that Party ("Indemnifying Party") will pay all costs associated with any damage, service interruption or other telecommunications service degradation, or damage to the other Party's ("Indemnitee") facilities.
>
> CLEC's use of any SWBT network element, or of its own equipment or facilities in conjunction with any SWBT network element, will not materially interfere with or impair service over any facilities of SWBT, its affiliated companies or connecting and concurring carriers involved in SWBT services, cause damage to SWBT's plant, impair the privacy of any communications carried over SWBT's facilities or create hazards to employees or the public. Upon reasonable written notice and after a reasonable opportunity to cure, SWBT may discontinue or refuse service if CLEC violates this provision, provided that such termination of service will be limited to CLEC's use of the element(s) causing the violation. SWBT will not disconnect the elements causing the violation if, after receipt of written notice and opportunity to cure, the CLEC demonstrates that their use of the network element is not the cause of the network harm. If SWBT does not believe the CLEC has made the sufficient showing of harm, or if CLEC contests the basis for the disconnection, either Party must first submit the matter to dispute resolution. Any claims of network harm by SWBT must be supported with specific and verifiable supporting information.
>
> Indemnification
>
> Covered Claim: Indemnifying Party will indemnify, defend and hold harmless Indemnitee from any claim for damages, including but not limited to direct, indirect or consequential damages, made against Indemnitee by any telecommunications service provider or telecommunications user (other than claims for damages or other losses made by an end-user of Indemnitee for which Indemnitee has sole responsibility and liability), arising from, the use of such non-standard xDSL technologies by the Indemnifying Party.
>
> Indemnifying Party is permitted to fully control the defense or settlement of any Covered Claim, including the selection of defense counsel. Notwithstanding the foregoing, Indemnifying Party will consult with Indemnitee on the selection of defense counsel and consider any applicable conflicts of interest. Indemnifying Party is required to assume all costs of the defense and any damages resulting from the use of any non-standard xDSL technologies in connection with or on

[60] SWBT Exhibit No. 22, SWBT Proposal with Respect to the Application of Specific Indemnity Language in SWBT's Proposed Language (April 15, 1999); DPL at 16 (May 28, 1999).

Indemnitee's facilities and Indemnitee will bear no financial or legal responsibility whatsoever arising from such claims.

Indemnitee agrees to fully cooperate with the defense of any Covered Claim. Indemnitee will provide written notice to Indemnifying Party of any covered claim at the address for notice assigned herein within ten days of receipt, and, in the case of receipt of service of process, will deliver such process to Indemnifying Party not later than ten business days prior to the date for response to the process. Indemnitee will provide to Indemnifying Party reasonable access to or copies of any relevant physical and electronic documents or records related to the deployment of non-standard xDSL technologies used by Indemnitee in the area affected by the claim, all other documents or records determined to be discoverable, and all other relevant documents or records that defense counsel may reasonably request in preparation and defense of the claim. Indemnitee will further cooperate with Indemnifying Party's investigation and defense of the claim by responding to reasonable requests to make its employees with knowledge relevant to the claim available as witnesses for preparation and participation in discovery and trial during regular weekday business hours. Indemnitee will promptly notify Indemnifying Party of any settlement communications, offers or proposals received from claimants.

Indemnitee agrees that Indemnifying Party will have no indemnity obligation, and Indemnitee will reimburse Indemnifying Party's defense costs, in any case in which Indemnifying Party's technology is determined not to be the cause of any Indemnitee liability.

Claims Not Covered: No Party hereunder agrees to indemnify or defend any other Party against claims based on gross negligence or intentional misconduct.

3. Can SWBT be permitted to limit xDSL capable loops to the provision of ADSL?

Parties' Positions

See DPL Issue No. 2.

Award

The Arbitrators agree with Petitioners that the use of xDSL loops should not be limited to the provision of ADSL service. In its *Advanced Services Order* the FCC concluded, "any loop technology that complies with existing industry standards is presumed acceptable for

deployment."[61] Further, the FCC concluded that "a LEC may not deny a carrier's request to deploy technology that is presumed acceptable for deployment, unless the LEC demonstrates to the state commission that deployment of the particular technology within the LEC network will significantly degrade the performance of other advanced services or traditional voice band services."[62] In addition, under the T2A, CLECs may provision non standard xDSL services as well, subject to certain conditions.

In its recent *UNE Remand Order*, the FCC affirmed its earlier decisions regarding the provision of loops capable of providing high speed data services.

> Unbundling basic loops, with their full capacity preserved, allows competitors to provide xDSL services. This in turn will foster investment, innovation, and competition in the local telecommunications marketplace. Without access to these loops, competitors would be at a significant disadvantage, and the incumbent LEC, rather than the marketplace, would dictate the pace of the deployment of advanced services.[63]

The FCC further clarified that the ILEC is required to provide "loops with all their capabilities intact, that is, to provide conditioned loops, *wherever* a competitor requests, even if the incumbent is not itself offering xDSL to the end-user customer on that loop" and the ILEC "cannot refuse a competitive LEC's request for conditioned loops on the grounds that they themselves are not planning to offer xDSL to that customer."[64]

The Arbitrators perceive the current level of interest in xDSL technologies to be very beneficial to customers desiring data connections using existing copper facilities. Evidence in this case points to a proliferation of technologies that appear suited to the needs of individual customers. The competitive marketplace is poised to offer these new services, and should not be stifled in any way. Appropriate industry standards discussed elsewhere in this Award can

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[61] *Advanced Services Order* at ¶ 67.

[62] *Id.* at ¶ 68.

[63] *UNE Remand Order* at ¶ 190.

[64] *Id.* at ¶ 191.

provide safeguards to protect the underlying network and other carriers' systems operating in the same cable complement or binder group. For all these reasons and the reasons stated under DPL Issue No. 2, the Arbitrators find that SWBT is not in any way permitted to limit xDSL capable loops to the provision of ADSL. *See* DPL Issue No. 2.

4(a). What is the physical makeup of a DSL capable loop that SWBT is required to provide?

4(b). Is SWBT required to provide a copper loop without interfering devices (load coils, bridge taps, and repeaters)?

Parties' Positions

Rhythms maintains that SWBT should be ordered to provide an xDSL loop that is capable of providing all xDSL technologies depending on reasonable limitations established within the contract language. (For example, requiring the CLEC to comply with national industry standards as articulated in ANSI or some other forum document.)[65] In addition, Rhythms argues that it should be allowed to change the type of xDSL technology used on the loop as its customer needs change. Further, Rhythms urges that SWBT not be allowed to place artificial limitations on the length of xDSL-capable loops. Rhythms also seeks the ability to have SWBT perform a "line and station transfer" in the event that a potential Rhythms customer is served on a loop that contains fiber optic facilities, in order to allow another copper pair, if available, to extend directly to the customer. Rhythms also argues that the loop should be provisioned to meet basic metallic and electrical characteristics such as electrical conductivity and capacitive and resistance balance. Finally, Rhythms want to be able to specify what type of conditioning or de-conditioning should be performed on the loop to allow the desired xDSL service to properly operate on the loop.[66]

Covad agrees with Rhythms' rationale, adding that their interconnection agreement with Pacific Bell, a SWBT affiliate, contains essentially the same definition of a xDSL loop Covad is

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[65] ACI Exhibit 3, Direct Testimony of Rand Kennedy at 10, 16 (Feb. 19, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 8-9 (April 8, 1999).

[66] ACI Ex. 3, Direct Testimony of Rand Kennedy at 15 (Feb. 19, 1999); ACI Post-Hearing Brief at 16-17.

proposing in this proceeding.[67] Covad states that it can provide ADSL, SDSL or IDSL services over a "clean" copper loop. Covad explains that in order to provide IDSL over some longer loops, the loop will need to have the same kind of repeaters SWBT uses for ISDN.[68]

SWBT contends that if loops without excessive bridge tap, load coils, or repeaters are available, those loops will be offered to the requesting CLEC, consistent with spectrum management standards regarding interference.[69] Further, if loops exist with the presence of load coils, excessive bridge tap, or repeaters, SWBT will recommend the conditioning of the loop to remove those items. SWBT asserts that it is at the CLEC's sole option to order the removal of this equipment at the cost-based rates listed in SWBT's contract.[70]

Award

The Arbitrators find that SWBT must provide a "clean" copper loop upon CLEC request. The Arbitrators define "clean" in this context to mean a loop without excessive[71] bridged tap, load coils, or repeaters. Most of the xDSL technologies addressed in this proceeding depend on the use of a "clean" copper loop. SWBT utilizes "clean" copper loops for its own ADSL services, and must provide nondiscriminatory access to technically identical loops, if available, for use by CLECs. In the event that a "clean" loop is not available, the CLEC must be given the opportunity to evaluate the parameters of the xDSL service to be provided, and determine whether and what type of conditioning must be requested and performed. The Arbitrators find that all conditioning shall be performed at the request of the CLEC. In addition, the loop should be provisioned to meet basic metallic and electrical characteristics such as electrical conductivity and capacitive and resistance balance.

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[67] Covad Exhibit 2, Direct Testimony of Druv Khanna at 26 (Feb. 19, 1999).

[68] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 5-6 (Feb. 19, 1999).

[69] SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 14-16 (April 8, 1999).

[70] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 7-8 (April 8, 1999).

[71] ACI witness Rand Kennedy generally characterized excessive bridged tap as that in excess of 2,500 feet in length, Tr. at 1300 (June 4, 1999).

The Arbitrators' decision on these issues is consistent with the *UNE Remand Order*, which concluded that:

> ... permitting incumbents to deny access to basic loops stripped of accreted devices, *i.e.*, "conditioned" loops, would preclude the ability of competitors to offer high-speed data services. Such unencumbered copper wire is necessary for requesting carriers to provide most types of xDSL service. While some "flavors" of xDSL can be provided over loops with a limited number of impediments, as a general rule the quality of such service – particularly the speed – is significantly diminished, compared to the service provided over unencumbered wires. ... Without access to these loops, competitors would be at a significant disadvantage, and the incumbent LEC, rather than the marketplace, would dictate the pace of the deployment of advanced services.[72]

The issue of "line and station transfers" raised by Rhythms includes several sub-issues, *e.g.*, subloop unbundling, packet switching unbundling (DSLAMs), collocation of DSLAMs in RTs. When a CLEC requests an xDSL loop to serve a particular customer, and that customer resides in an area that is served by fiber via a RT, the Arbitrators believe that SWBT should not deny the request out of hand, but should look at other options to provide the service. One solution may be that there are copper pairs that can be made available through a line and station transfer as described by Rhythms. Another option may be to allow the CLEC to collocate DSLAM equipment in the remote location. This copper/fiber facilities issue is addressed under DPL Issue No. 6. However, at a minimum, the solutions that are available to SWBT's retail advanced services operations, or to its separate subsidiary, must also be made available to CLECs. In order to monitor this issue, the Arbitrators find that SWBT's denial of CLEC orders due to loop non-availability, discussed in response to DPL Issue No. 13, should also apply to denials resulting from fiber/DLC/DAML facility issues.

The Arbitrators address other concerns expressed by the Parties on these DPL issues in other parts of this Award. Rhythms' concerns regarding artificial limitations on loop length is addressed in DPL Issue No. 1. SWBT's spectrum management position is discussed further in Section III of this Award.

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[72] *UNE Remand Order* at ¶ 190 (footnotes omitted).

The Arbitrators find that the following language, adapted from T2A Attachment 25, should be included in the Parties' resulting Interconnection Agreements:

> SWBT will provide a loop capable of supporting a technology presumed acceptable for deployment or non-standard xDSL technology as defined in this [Award].
>
> SWBT shall not deny a CLEC's request to deploy any loop technology that is presumed acceptable for deployment, or one that is permitted during the twelve-month trial period, unless it has demonstrated to the Commission that the CLEC's deployment of the specific loop technology will significantly degrade the performance of other advanced services or traditional voice band services. For the purpose of this section, "significantly degrade" means to noticeably impair a service from a user's perspective.
>
> In the event the CLEC wishes to introduce a technology that has been approved by another state commission or the FCC, or successfully deployed elsewhere, the CLEC will provide documentation describing that action to SWBT and the Commission before or at the time of their request to deploy that technology in Texas. The documentation should include the date of approval or deployment, any limitations included in its deployment, and a sworn attestation that the deployment did not significantly degrade the performance of other services. The terms of this paragraph do not apply during the twelve-month trial period.

5. Can DSL loops retain repeaters at the CLEC's option?

Parties' Positions

Rhythms states that CLECs should be able to retain repeaters. Rhythms asserts that repeaters will not cause technical interference with other loops. Rhythms contends that if SWBT unnecessarily forces the removal of repeaters, the result will be unwarranted delay and expense. Rhythms views the CLEC option of retaining repeaters as a business decision relating to quality of service that is appropriate for the CLEC and the customer.[73]

Covad agrees with Rhythms' rationale, and argues that repeaters do not interfere with the provisioning of IDSL service.[74] Covad explains that the IDSL technology can provide service to customers beyond the normal ADSL distance limit of 18,000 feet. According to Covad witness Mr. Khanna, Covad has provided service to customers in California on loops in excess of 40,000

[73] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 17-20, 38-39 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 13-14 (Feb. 19, 1999).

[74] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 5-6 (Feb. 19, 1999).

feet from the central office. Covad explains that in order to achieve those distances, repeaters must be placed on the cable pairs.[75]

SWBT asserts that it offers a 2-wire BRI-capable loop, which has digital repeaters or regenerators, as a standard product. The 2-wire BRI-capable loop would allow for provisioning IDSL. Additionally, SWBT offers language for the CLEC that allows for the ordering of an xDSL loop with repeater(s). SWBT does not contest this issue, except to note that if a loop contains repeaters, removal is at the option of CLEC, and that some repeaters may not be compatible with the CLEC's intended use.[76]

Award

The Arbitrators find that xDSL loops may retain repeaters at the discretion of the CLEC. The Arbitrators perceive no disagreement among the Parties on this issue. To the extent that a CLEC wishes to retain an existing repeater for the provision of IDSL or other technologies, it should be allowed to do so. The Arbitrators find that any conditioning of xDSL loops is at the sole discretion of the CLEC.

6. If a copper loop is not available from the customer premises to the SWBT central office, does Rhythms have the right to place appropriate equipment such as DSLAMs at the fiber/copper interface point in SWBT's network?

Parties' Positions

Rhythms posits that all carriers must have equal accessibility to the copper portion of loops, whether the copper portion ends at the MDF or a location in the field. Rhythms asserts that it must have the ability to place its xDSL equipment at the end of the copper section of the customer's loop. This will allow Rhythms to take the traffic and convert it so that it can ride the fiber DLC system back to the central office. Rhythms witness Mr. Kennedy contends that the DSLAM should be placed at the end of the copper facility, whether that is at the central office, or

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[75] Tr. at 1395-1396 (June 4, 1999).

[76] DPL at 20 (May 28, 1999).

at a remote interface. He notes that the placement of a DSLAM at remote location is technically feasible.[77]

Covad does not provide evidence on this specific issue.

SWBT notes that the Texas Collocation Tariff permits the collocation of transmission equipment in huts, CEVS (controlled environmental vaults), and Remote Terminals (RTs), where space is available. SWBT states that xDSL loops out of these RT sites may be available via the bona fide request (BFR) process, depending on the circumstances in the RT. SWBT warns that a dual-fed RT with both copper and fiber may have technical issues that would limit the deployment of xDSL from the RT. For example, SWBT continues, if two xDSL signals travel down a distribution cable, one introduced by CLEC A from a collocation site in the central office, and the second from CLEC B at the RT site, there may be crosstalk and interference issues from these adjacent services since their power levels in the distribution cable are different. Since more carriers will be able to access the loop from the central office versus the RT, xDSL sub-loops would not be available from that particular RT. SWBT argues that spectrum management becomes exponentially more complicated, since the signals must be tracked and inventoried, and the signals' point of introduction into the loop must be tracked and accounted for.[78]

Award

The Arbitrators find that delaying the deployment of remote DSLAMs would hinder competition and the deployment of advanced services. The FCC found in its *Advanced Services Order* that "a LEC may not deny a carrier's request to deploy technology that is presumed acceptable for deployment, unless the LEC demonstrates to the state commission that deployment of the particular technology within the LEC network will significantly degrade the

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[77] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 19-20 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 15-16 (Feb. 19, 1999).

[78] SWBT Exhibit 2, Direct Testimony of William C. Deere at 21 (Feb. 19, 1999).

performance of other advanced services or traditional voice band services."[79] SWBT has not demonstrated that deployment of DSLAMs at remote locations will significantly degrade the performance of other services. In fact, SWBT's own internal documents contain discussions relating to planning for exactly such deployment.[80] Therefore, SWBT should not be allowed to deny the Petitioners' requests to deploy DSLAMs in remote locations. The Arbitrators agree that the introduction of xDSL terminals and DSLAMs in remote terminals may present additional technical issues. However, evidence shows that SWBT's network planning team has been aware of the need to deploy remote DSLAMs.[81] *See* Confidential Attachment B, Paragraph B. Regardless of whether SWBT intends to pursue this option, the Arbitrators do not believe it is reasonable to delay CLEC deployment of remote DSLAM configurations until SWBT has determined whether it wants to have the same configuration for its own retail xDSL operation.

The Arbitrators find that in locations where SWBT has deployed (1) DLC systems and an uninterrupted copper loop is replaced with a fiber segment or shared copper in the distribution section of the loop, (2) DAML technology to derive two voice-grade POTS circuits from a single copper pair, or (3) entirely fiber optic facilities to the end user, a competitor can be effectively precluded from offering xDSL service if the following options are not made available.

In the three situations above, where spare copper facilities are available, and the facilities meet the necessary technical requirements for the provision of xDSL[82] and allow Petitioners to offer the same level of quality for advanced services, Petitioners should have the option of requesting that SWBT make copper facilities available, (*e.g.*, one way would be to perform a line and station transfer, *i.e.*, reassignment of a current service to a different working loop). Petitioners should also have the option of collocating a DSLAM in the RT at the fiber/copper

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[79] *Advanced Services Order* at ¶ 68.

[80] ACI Exhibit 41(confidential), Deposition Exhibit 28. Specifically, the minutes from meetings of the Network Evolution Relevant to Data Services (NERDS) group, Jul. 21, 1998, Aug. 25, 1998, and Dec. 1, 1998.

[81] *Id.*

[82] For example, if the loop length exceeds a certain distance, the provision of a particular xDSL service may not be technically infeasible. *See UNE Remand Order* at ¶ 313.

interface point. In this situation, SWBT is required to provide unbundled access to subloops to allow Petitioners to access the copper wire portion of the loop.[83]

Further, the Arbitrators find that in the situation where Petitioners are unable to install a DSLAM at the RT or obtain spare copper loops necessary to provision an xDSL service, and SWBT has placed a DSLAM in the RT, SWBT must unbundle and provide access to its DSLAM. SWBT is relieved of this requirement to unbundle its DSLAM only if it permits Petitioners to collocate their DSLAMs in the RT on the same terms and conditions that apply to its own DSLAM.[84] To find otherwise would enable SWBT to effectively create a barrier to Petitioners' entry into the xDSL market in Texas.

The Arbitrators findings under this DPL Issue are also applicable to DPL Issue Nos. 1, 4(a) and 4(b).

The Arbitrators findings are consistent with FCC precedent. The FCC addressed this issue in its *UNE Remand Order*. First, the FCC concluded that ILECs must provide unbundled access to subloops. The FCC concluded "that lack of access to unbundled subloops at technically feasible points throughout the incumbent's loop plant will impair a competitor's ability to provide services that it seeks to offer."[85] The FCC clarified that "technically feasible points" would include (in the context of this issue) any FDI, whether the FDI is located at a cabinet, CEV, remote terminal, utility room in a multi-dwelling unit, or any other accessible terminal. The FCC further stated that:

> ... competitors seeking to offer services using xDSL technology need to access the copper wire portion of the loop. In cases where the incumbent multiplexes its copper loops at a remote terminal to transport the traffic to the central office over fiber DLC facilities, a requesting carrier's ability to offer xDSL service to

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[83] This Commission has required subloop unbundling in prior arbitrations. *See UNE Remand Order* at ¶ 218.

[84] The FCC has required such unbundling in its *UNE Remand Order* at ¶ 313.

[85] *UNE Remand Order* at ¶¶ 209-211 (Loop facilities, including subloop elements, are the most time-consuming and expensive network element to duplicate on a pervasive scale, and that the cost of self-provisioning subloops can be prohibitively expensive. Self-provisioning subloops would require requesting carriers to incur significant sunk costs prior to offering services to end users. Requiring competitors to expend such sums would, at a minimum, delay entry and thus postpone the benefits of competition for consumers.).

> customers served over those facilities will be precluded, unless the competitor can gain access to the customer's copper loop before the traffic on that loop is multiplexed. Thus, we note that the remote terminal has, to a substantial degree, assumed the role and significance traditionally associated with the central office. In addition, in order to use its own facilities to provide xDSL service to a customer, a carrier must locate its DSLAM within a reasonable distance of the customer premises, usually less than 18,000 feet. In both of these situations, a requesting carrier needs access to copper wire relatively close to the subscriber in order to serve the incumbent's customer.[86]

The FCC then provides direction on the specific issue of remote DSLAMs in its discussion of loops used for packet switching.

> In locations where the incumbent has deployed digital loop carrier (DLC) systems, an uninterrupted copper loop is replaced with a fiber segment or shared copper in the distribution section of the loop. In this situation, and where no spare copper facilities are available, competitors are effectively precluded altogether from offering xDSL service if they do not have access to unbundled packet switching. ... When an incumbent has deployed DLC systems, requesting carriers must install DSLAMs at the remote terminal instead of at the central office in order to provide advanced services. We agree that, if a requesting carrier is unable to install its DSLAM at the remote terminal or obtain spare copper loops necessary to offer the same level of quality for advanced services, the incumbent LEC can effectively deny competitors entry into the packet switching market. We find that in this limited situation, requesting carriers are impaired without access to unbundled packet switching. Accordingly, incumbent LECs must provide requesting carriers with access to unbundled packet switching in situations in which the incumbent has placed its DSLAM in a remote terminal. This obligation exists as of the effective date of the rules adopted in this Order. The incumbent will be relieved of this unbundling obligation only if it permits a requesting carrier to collocate its DSLAM in the incumbent's remote terminal, on the same terms and conditions that apply to its own DSLAM. Incumbents may not unreasonably limit the deployment of alternative technologies when requesting carriers seek to collocate their own DSLAMs in the remote terminal.[87]

Finally, the Arbitrators note that because the FCC has found that packet switching is a UNE in the limited circumstances stated above, and that the DSLAM is a component of the

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[86] *UNE Remand Order* at ¶ 218 (footnotes omitted).

[87] *UNE Remand Order* at ¶ 313 (footnotes omitted).

packet switching functionality,[88] the SBC/Ameritech merger conditions relating to advanced services equipment are relevant. The merger conditions provide that, "[i]f SBC/Ameritech transfers to its separate affiliate a facility that is deemed to be a UNE under 47 U.S.C. § 251(c)(3), the [FCC's] unbundling requirements will attach with respect to that UNE as described in section 53.207 of the [FCC's] rules, 47 C.F.R. § 53.207."[89] Accordingly, the unbundling requirement with respect to DSLAMs would attach to such equipment transferred to SWBT's advanced services affiliate.

7. Is SWBT permitted to require shielded cable (versus non-shielded cable) for central office wiring when provisioning xDSL technologies?

Parties' Positions

Rhythms contends that there is no legitimate technical purpose for requiring shielded cable for central office cabling.[90] Moreover, Rhythms asserts that shield cross connects are not necessary when provisioning xDSL services.[91]

Covad contends that shielded cross connects are not necessary because crosstalk in the limited distance covered by the shielded cable is insubstantial. Covad argues that other ILECs, including SWBT affiliate Pacific Bell, do not require shielded central office cable. Covad asserts that it has never received a report of any problems related to the absence of shield cross-connects from an ILEC.[92]

In its original filing, SWBT required shielded cable (versus non-shielded cable) for central office wiring when provisioning xDSL technologies. SWBT now replies that it does not

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[88] *UNE Remand Order* at ¶ 303, 313.

[89] SBC/Ameritech Merger Order, Appendix C, *Conditions* at ¶ 3(e).

[90] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 21-22 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 26 (Feb. 19, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric H. Geis at 27 (April 8, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 9-10 (April 8, 1999).

[91] *See* ACI Exhibit 5, Direct Testimony of Terry L. Murray (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy (Feb. 19, 1999); ACI Exhibit 4, Direct Testimony of Philip Kyees (Feb. 19, 1999).

require shielded cross-connect cabling in the current version of its proposed agreement, and instead leaves this as an option for the CLEC.[93]

Award

The Arbitrators do not perceive disagreement among the Parties on this issue. The Arbitrators agree with the Parties and find that SWBT can not require shielded cable for central office wiring when provisioning xDSL technologies; rather, use of a shielded cable should be at the option of the CLEC. *See* DPL Issue Nos. 28 and 32.

9. Can SWBT be permitted to install equipment at its own discretion that may interfere with the provision of xDSL services by a CLEC?

Parties' Positions

Rhythms insists that SWBT should not be entitled to install any equipment that would affect the continuity of CLECs services or would interpose SWBT between the CLEC and its customer.[94]

Covad acknowledges that SWBT no longer insists on "power guards." However, in the event that SWBT has not withdrawn this issue, Covad restates its objection to power guards. Covad maintains that SWBT should not be allowed to impose power guards on CLEC xDSL equipment. Covad contends that there is no reason to believe that a CLEC would violate any policy it agreed to and/or this Commission imposed regarding spectrum management. Covad further explains that power guards do not exist today, and SWBT should not be placed in a

[92] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 17 (Feb. 19, 1999).

[93] DPL at 22 (May 28, 1999).

[94] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 28-30 (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy at 26-27 (Feb. 19, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 7-8 (April 8, 1999).

position of monitoring CLEC xDSL equipment. Covad believes that power guards would inevitably degrade Covad's service.[95]

SWBT states that it does not intend, nor has it requested, to install equipment that may interfere with the provision of xDSL services by a CLEC. Rather, SWBT wishes to reserve the right to use a non-intrusive device, when/if available, as a means to assure that CLEC usage is as represented for all xDSL technologies. SWBT says that it does not offer contract language on this point because there is too much uncertainty as to this matter.[96]

Award

The Arbitrators deny SWBT's request to reserve the right to use a non-intrusive device, when or if available, as a means to assure that CLEC usage is as represented for all xDSL technologies. The Arbitrators recognize that some type of testing equipment will likely be required to perform maintenance and troubleshooting on xDSL systems. However, there has been no reasonable showing that an installed device of this sort would be practical, cost-effective, or necessary.

10. Is it appropriate for SWBT to impose limitations on the transmission speeds of xDSL services?

Parties' Positions

Rhythms argues that it is not appropriate for SWBT to impose limitations on the transmission speeds of xDSL services. Rhythms states that a more important consideration is interference with services carried on adjacent loops, which can be addressed directly by national

[95] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 18-19 (Feb. 19, 1999).

[96] DPL at 25 (May 28, 1999).

standards. Until such national standards are in place, Rhythms contends that SWBT should not be allowed to impose unilateral limitations on transmission speed.[97]

Covad claims that it is not appropriate for SWBT to impose limitations on the transmission speeds of xDSL services and believes that this issue mirrors DPL Issue No. 9. [98]

SWBT asserts that it will comply with the *Advanced Services Order*. SWBT requires CLECs to identify the speeds that they intend to run solely for the purpose of spectrum management, as explained in SWBT's proposed contract language.[99]

Award

The Arbitrators find it is not appropriate for SWBT to impose limitations on the transmission speeds of xDSL services. A major benefit of competition is technological innovation, as demonstrated by the advanced services at issue in this proceeding. The Arbitrators determine that no incumbent carrier should be permitted to thwart technological innovation. The Arbitrators order that SWBT must not be permitted to restrict the Petitioners' services or technologies to a level at or below those provided by SWBT. However, consistent with the *Advanced Services Order*, the Arbitrators find that SWBT may obtain information from the CLEC regarding the type of xDSL service provided on the loop for the sole purpose of maintaining an inventory of advanced services present in the cable sheath. As discussed with respect to DPL Issue No. 14(b), SWBT must keep such information confidential, not allowing it to be revealed to SWBT's retail operations, to its retail affiliate(s), or to other competitors.

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[97] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 30-32 (Feb. 19, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric H. Geis at 12-14 (April 8, 1999); ACI Exhibit 10, Rebuttal Testimony of Philip Kyees at 4-14 (April 8, 1999); ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 7-8 (April 8, 1999); ACI Exhibit 21, Supplemental Direct Testimony of Rand Kennedy at 11 (May 24, 1999). [portions confidential]

[98] DPL at 27 (May 28, 1999).

[99] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 4-10 (April 8, 1999).

III. Spectrum Management

DPL Issue Nos. 8, 11-14

8. Should national standards be applicable to the provisioning of xDSL services for the purposes of standards for this Interconnection Agreement, or can SWBT be permitted to impose its unique standards on xDSL services via its own technical publication(s)?

Parties' Positions

Rhythms argues that national standards should define the provisioning of xDSL services.[100] To the extent that limitations are placed on the xDSL services, Rhythms contends that those limitations should be specified by national standards, without waiver or modification.[101] Rhythms asserts that SWBT's Technical Publications do not comply with national standards[102] and SWBT cannot assure that its Technical Publications will remain consistent with national standards or industry-wide practices.[103] In the event that SWBT is permitted to impose standards for xDSL through its Technical Publications, Rhythms contends that the CLECs should have the right to review the standards, propose modifications, and resolve any disputes.[104]

Rhythms specifically objects to SWBT's position that if there is no approved national standard, CLECs must comply with SWBT's Technical Publications. Rhythms asserts that SWBT's Technical Publications contain requirements that go beyond accepted national standards. Rhythms witness Mr. Kyees cites an example of SWBT's Technical Publication (TP 76730) regarding ADSL that is not consistent with the national standard (T1.413), and contains

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[100] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 22 (Feb. 19, 1999).

[101] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 24 (Feb. 19, 1999).

[102] ACI Exhibit 3, Direct Testimony of Rand Kennedy at 25 (Feb. 19, 1999); ACI Exhibit 4, Direct Testimony of Philip Kyees at 10 (Feb. 19, 1999).

[103] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 25 (Feb. 19, 1999).

[104] ACI Exhibit 8, Rebuttal Testimony of Rand Kennedy at 2-4 (April 8, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 5-11, 25-26 (April 8, 1999); ACI Exhibit 10, Rebuttal Testimony of Philip Kyees at 4-14 (April 8, 1999).

additional requirements based on SWBT's own retail implementation of ADSL that have little relevance to spectrum management.[105]

Covad states that it will abide by national standards, such as the ANSI standards developed by the T1E1.4 committee, for the provisioning of xDSL technologies.[106] Covad rejects SWBT's spectrum management plan on the basis that it: (1) is based on unsound assumptions; (2) unnecessarily limits the number of customers that could receive xDSL services; and (3) favors SWBT's ADSL over other xDSL services offered by CLECs.[107]

SWBT agrees to conform to national standards where national standards are available. SWBT witness Mr. McDonald explains that the value of industry standards is that businesses can develop products and services with the knowledge that those products and services will work for their customers and not disrupt the network.[108] National standards, such as those developed by ANSI, provide the industry with predictability as to how equipment can be manufactured and services can be delivered.[109] In the absence of national standards, SWBT maintains that its Technical Publications would be used on an interim basis to establish the "rules of the road."[110] SWBT further asserts that its Technical Publications are based upon national standards and thus comply with such standards.[111] SWBT states that it intends to conform its spectrum management plans with those developed by national standards, or approved by the FCC or the Commission.[112] SWBT explains that its Technical Publications attempt to be consistent with standards expected to be established by national standards group such as the ANSI T1E1.4.[113] According to SWBT,

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[105] ACI Exhibit 4, Direct Testimony of Phillip Kyees at 10 (Feb. 19, 1999).

[106] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 11 (Feb. 19, 1999).

[107] Covad Exhibit 42, Supplemental Direct Testimony of Anjali Joshi at 16 (May 24, 1999).

[108] SWBT Exhibit 3, Direct Testimony of Richard A. McDonald at 4 (Feb. 19, 1999).

[109] *Id.* at 3.

[110] SWBT Exhibit 5, Direct Testimony of Alan Samson at 4 (Feb. 19, 1999).

[111] SWBT Exhibit 2, Direct Testimony of William Deere at 10 (Feb. 19, 1999), Tr. 1747 – 1761 (Apr. 15, 1999).

[112] SWBT Exhibit 26, Supplemental Rebuttal Testimony of William Deere at 14 (May 18, 1999).

[113] SWBT Exhibit 3, Direct Testimony of Richard A. McDonald at 10 (Feb. 19, 1999).

the Technical Publications can accelerate the availability of SWBT local loops to CLECs by establishing a method for managing the spectrum prior to the establishment of industry standards.[114]

SWBT further states that it will allow the deployment of xDSL technologies other than ADSL, regardless of whether national standards exist. Accordingly, CLECs may deploy technologies that have been successfully deployed by any carrier without significantly degrading the performance of other services, or that have been approved by any state commission or the FCC.[115]

Award

The Arbitrators conclude that national standards or industry-wide accepted standards shall govern the provisioning of xDSL services. Standards developed and adopted by standard-setting bodies like the ANSI T1E1.4, or standards that are the product of consensus in the telecommunications industry, shall constitute national standards. Standards set by standard-setting bodies like ANSI T1E1.4 are developed fairly, openly, and in a comprehensive manner to determine how the PSTN should accommodate xDSL based services. With respect to national standards, the FCC concluded in its *Advanced Services Order*:

> We believe that the industry must develop a simpler and more open approach to spectrum management. Currently, each incumbent LEC defines its own spectrum management specifications. These measures vary from provider to provider and from state to state, thereby requiring competitive LECs to conform to different specifications in each area. We find that uniform spectrum management procedures are essential to the success of advanced services deployment. [116]

The Arbitrators also note that the § 271 DSL working group may set standards for Texas.

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[114] *Id.* at 10.

[115] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 10 (April 8, 1999).

[116] *Advanced Services Order* at ¶ 71.

Consistent with the *Advanced Services Order*, the Arbitrators order that SWBT shall not impose its own standards for provisioning xDSL services via its own Technical Publications. The *Advanced Services Order* specifically concluded the following with respect to the application of requirements by the incumbent LEC:

> We acknowledge that clear spectral compatibility standards and spectrum management rules and practices are necessary both to foster competitive deployment of innovative technologies and to ensure the quality and reliability of the public telephone network. We find, however, that incumbent LECs should not unilaterally determine what technologies LECs, both competitive LECs and incumbent LECs, may deploy. Nor should incumbent LECs have unfettered control over spectrum management standards and practices. We are persuaded by the record that allowing incumbent LECs such authority may well stifle deployment of innovative competitive LEC technology. Various commenters argue that some incumbents are frustrating the deployment of advanced services under the guise of spectrum compatibility concerns. The better approach, we believe, is to establish competitively neutral spectral compatibility standards and spectrum management rules and practices so that all carriers know, without being subject to unilateral incumbent LEC determinations, what technologies are deployable and can design their networks and business strategies accordingly. [117]

SWBT's Technical Publications must be approved by the Commission prior to use,[118] and its Technical Publications regarding xDSL services have not yet been approved. Allowing SWBT to impose its own standards and practices would stifle the deployment of innovative CLEC technology, and dissuade new entrants from providing xDSL-based services in the state, thus delaying Texans' ability to benefit from new technologies. While SWBT argues that its Technical Publications are consistent with national standards, the record reveals that SWBT's current Technical Publications include additional criteria beyond those contained in national standards, and omit some of the parameters contained in the national standard for ADSL technology.[119]

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[117] *Advanced Services Order* at ¶ 63 (footnotes omitted).

[118] T2A, Attachment 6, Sec. 2.17.1.

[119] Tr. at 1744 – 1767 (June 5, 1999).

The Arbitrators reiterate their decision discussed in DPL Issue No. 2(b): carriers should be encouraged to develop and provide non-standard xDSL technologies through the means discussed in that portion of this Award.

11. From a parity perspective, is SWBT required to conform to the same technical standards as CLECs for competing xDSL retail services?

Parties' Positions

Rhythms asserts that it would cause discriminatory results for SWBT to be permitted to offer retail xDSL services using different underlying standards than CLECs.[120] Rhythms contends that SWBT should operate under national standards to ensure the compatibility and integrity of its nationwide network and to ensure high quality service to customers with employees or locations in many different states. Rhythms further states that SWBT's internal standards are restrictive and unnecessarily limit Rhythms' ability to offer the full range of services that it already offers to customers in SBC's other operating territories.[121] Finally, Rhythms contends that SWBT's specifications, as currently written, are not the appropriate mechanism to define technical implementation and provisioning standards, rules, or guidelines; nor do the specifications promote any of these goals.[122]

Covad agrees with Rhythms' rationale.[123]

SWBT asserts that its retail ADSL services will conform to the same national standards and Technical Publications that are used for its wholesale ADSL loops. Thus, requesting CLECs will have parity with SWBT with respect to offering xDSL services.[124] SWBT disagrees that existing nationwide standards are sufficient to address all relevant issues associated with the

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[120] DPL at 30 (June 1, 1999).

[121] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 22 (Feb. 19, 1999).

[122] *Id.* at 24.

[123] DPL at 30 (June 1, 1999).

[124] SWBT Post Hearing Brief at 28 (Aug. 17, 1999); DPL at 30-31 (June 1, 1999).

deployment of xDSL technologies.[125] SWBT argues that national standards alone may not be enough to manage the network.[126] SWBT acknowledges that, while its network management policies may limit the offering of some xDSL services, it will insure that the network operates at the greatest capacity possible, while meeting the public's expectation for reliability.[127]

Award

At the hearing on the merits, Parties resolved this issue conceptually by agreeing that SWBT is required to conform to the same technical standards as CLECs for competitive xDSL retail services. The unresolved issue was the contract language that would implement the agreement among Parties.[128]

The Arbitrators support Parties' resolution and find, consistent with the *Advanced Services Order*, that SWBT shall not impose its own technical standards for SWBT's retail xDSL offerings on Petitioners. The better approach is to establish competitively neutral spectral compatibility standards and spectrum management rules and practices so that all carriers know, without being subject to unilateral ILEC determinations, what technologies are deployable and can design their networks and business strategies accordingly.[129]

The *Advanced Services Order* concluded that the ILEC should not have unfettered control over spectrum management standards and practices.[130] The Arbitrators also acknowledge the possibility that allowing SWBT to employ a different standard for itself than for its competitors could frustrate fair and open deployment of advanced services, and result in disparate provisioning of xDSL loops. Therefore, the Arbitrators conclude that SWBT shall not employ internal technical standards, through Technical Publications or otherwise, for its own

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[125] SWBT Exhibit 9. Rebuttal Testimony of Richard McDonald at 6 (April 8, 1999).

[126] *Id.* at 15.

[127] SWBT Exhibit 5. Direct Testimony of Alan Samson at 5 and 6 (Feb. 19, 1999).

[128] Tr. at 57-58 (April 14, 1999).

[129] *Advanced Services Order* at ¶ 63.

[130] *Id.*

retail xDSL that would adversely affect wholesale xDSL services or xDSL providers. For example, in DPL Issue No. 12, the Arbitrators rule that SWBT may not segregate binder groups exclusively for the provisioning of ADSL services, as the practice potentially limits the number and types of xDSL services provisioned by all providers.

12(a). Is there an industry consensus that there is a technically sound basis to implement Binder Group Management Plan?

12(b). If not, should a Binder Group Management plan be imposed on CLECs in the interconnection agreement?

12(c). Should SWBT be allowed to reserve loop complements for ADSL services exclusively?

Parties' Positions

Rhythms argues that SWBT is seeking to impose its own self-generated spectrum management/binder group management (BGM) plan that has not been reviewed by a regulatory body or agreed to by any national standards forums such as ANSI, or affected CLECs.[131] Further, Rhythms witness Mr. Geis contends that SWBT and Pacific Bell are the only ILECs that are planning to implement such a plan.[132] Rhythms expresses concern that SWBT's BGM plan will give SWBT control over Rhythms' unbundled loops.[133] Rhythms witness Mr. Kyees admits that BGM has worked well for T-1 carrier systems, since the upstream and downstream signals impact each other so severely that they must be separated by other binders. However, he asserts that for other technologies, the BGM technique would be inefficient, expensive and difficult to maintain.[134]

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[131] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 31 (Feb. 19, 1999).

[132] *Id.*

[133] *Id.*

[134] ACI Exhibit 4, Direct Testimony of Philip Kyees at 11 - 12 (Feb. 19, 1999).

Rhythms witness Mr. Kyees introduces correspondence from Bell Atlantic that was contributed to the ANSI T1E1.4 Working Group, entitled "Binder Group Segregation is Not Feasible."[135] The Bell Atlantic analysis focuses on the lack of binder groups integrity in loop plant, and the resulting impracticality of binder group segregation. Mr. Kyees further testifies that nearly every other incumbent LEC present at the ANSI T1E1 meeting at which this paper was submitted also agreed with Bell Atlantic's findings.[136]

In response to SWBT's revised BGM proposal known as Selective Feeder Separation (SFS), Rhythms witness Mr. Kennedy contends that the SWBT SFS program contains serious flaws. First, Rhythms contends that the SFS plan is based solely on "interferer tables"[137] created by an affiliate and that contain a number of shortcomings, enumerated by Rhythms witness Mr. Kyees.[138] Rhythms asserts that one of its prime concerns is that SWBT's interferer tables are based on a single vendor's ADSL technology, and are not necessarily consistent with the technologies or vendors used by other carriers, or even later versions of the selected vendor's equipment. In addition, Rhythms objects to the assumptions inherent in the tables regarding binder group sizing. Rhythms also objects to the accuracy of SWBT's interferer tables because the computations are based on lab tests rather than field results. In addition, Rhythms asserts that the interferer tables proposed by SWBT represent a combination of loop reach values, both upstream and downstream, which does not represent real-world installations. Mr. Kyees further opposes the use of SWBT's interferer tables because they assume that the "disturbers" are co-located at the same point in the central office, which is not reflected in actual practice. Additionally, Rhythms asserts that the tables are incomplete because they do not include information about all the various types of xDSL services, and do not contain information about different combinations of "disturbers." Addressing an additional concern regarding SWBT's SFS plan, Rhythms witness Mr. Kennedy asserts that the SFS plan represents an improper

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[135] *Id.* at Attachment PK-1.

[136] *Id.* at 12.

[137] SWBT Exhibit 2, Direct Testimony of William Deere at Schedules 1 - 3 (Feb. 19, 1999); ACI Exhibit 17/17A, DSL Methods and Procedures Attachment 1.

[138] ACI Exhibit 22, Supplemental Direct Testimony of Philip Kyees at 3 - 7 (May 24, 1999); *see also* ACI Post-Hearing Brief at 39-45.

attempt to reserve large numbers of pairs in advance for the exclusive use of the ADSL technology being deployed by SWBT.[139]

Rhythms urges the Commission to halt the program immediately, since it is lacking in technical foundation and could have discriminatory and detrimental effects on the deployment of competitive xDSL services. Rhythms contends that it would be inappropriate for SWBT to impose standards on a unilateral basis, since spectrum management is currently being considered by the FCC and the standards setting groups.[140] Rhythms also urges the Commission to remove any restrictions imposed by SWBT on use of pairs for xDSL services, either through designations in the LFACS and LEAD databases or by the rules in LFACS limiting deployment of xDSL services to certain pair ranges.

Covad argues that SWBT's spectrum management plan is based on unfounded theoretical and operational assumptions; intentionally and unnecessarily limits the number of customers that can receive any type of DSL service other than ADSL; and is discriminatory and anticompetitive because the plan favors SWBT's ADSL services over the xDSL services offered by CLECs.[141] Covad witness Ms. Joshi highlights several spectrum management procedures that she believes are anticompetitive, since they limit the number of non-ADSL services that may be deployed by competitors. Ms. Joshi contends that SWBT's advance reservation of ADSL-only complements before CLECs have the opportunity to deploy their services represents a discriminatory practice. In addition, Ms. Joshi asserts that SWBT's assumption that all loops in such reserved complements are the same length as the "longest theoretical loop" limits the number of non-ADSL services available, according to SWBT's interference tables. Covad argues that availability is further limited by SWBT's assumption that all loops in the ADSL-only complements are, or will be, operational. In addition, Covad argues that availability of pairs are limited, as SWBT has reserved as many cable complements as operationally possible for ADSL service deployment. Finally, Ms. Joshi contends that because of SFS, SWBT restricts

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[139] ACI Exhibit 21, Supplemental Direct Testimony of Rand Kennedy at 4 - 6 (May 24, 1999).

[140] *Id.* at 10.

[141] Covad Exhibit 42, Supplemental Direct Testimony of Anjali Joshi at 16 (May 24, 1999).

deployment of non-ADSL services in six times as many loops as reserved for ADSL, by blocking off binder groups surrounding the reserved cable complement.[142]

SWBT states that a BGM process isolates digital services, such as T-1 and ADSL, and attempts to place all such services within discrete sections (binder groups) in the outside plant cable. SWBT contends that BGM is necessary due to digital "inteferers," which reduce the operating range of ADSL loops within an individual binder. SWBT argues that, by placing the digital inteferers in a common binder group, and separating those binders from other binders in the cable, complete binder groups containing no interferers can be created. SWBT states that it currently segregates T-1 carrier systems in the feeder plant, an integral part of the its proposed BGM plan.[143]

In rebuttal testimony SWBT witnesses Mr. McDonald and Mr. Deere clarify that SWBT intends to utilize SFS, which manages the binder group in the feeder plant only, and is only used in cases where an improvement in the interference environment can be realized.[144] SWBT states that by reducing the interference in the feeder plant, the performance of the user-to-network (upstream) channel is improved. According to SWBT witness Mr. McDonald, using SFS not only benefits T-1 and ADSL, but also reduces the exposure of other xDSL technologies from interference from T-1 and ADSL.[145]

SWBT maintains that the *Advanced Services Order* reflects a consensus on the necessity for BGM.[146] SWBT states that the industry views limited SFS for ADSL and T-1 carrier in the feeder plant as an effective method for improving network performance for xDSL based services.[147] According to SWBT, the principle underlying SFS is commonly accepted and

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[142] *Id.* at 16-17.

[143] SWBT Exhibit 2, Direct Testimony of William C. Deere at 18 (Feb. 19, 1999).

[144] SWBT Exhibit 9, Rebuttal Testimony of Richard A. McDonald at 7 (Apr. 8, 1999).

[145] *Id.* at 8.

[146] *Advanced Services Order* at ¶ 61-65; SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 17-18 (Apr. 8, 1999); SWBT Exhibit 3, Direct Testimony of Richard A. McDonald at 4-10 (Feb. 19, 1999).

[147] SWBT Exhibit 9, Rebuttal testimony of Richard A. McDonald at 10 (Apr. 8, 1999).

employed by many companies.[148] Reserving binder groups for ADSL services, SWBT argues, will increase the number of binder groups available for other xDSL technologies.[149] SWBT maintains that, if ADSL is randomly assigned across binder groups, the presence of a single ADSL loop could preclude the use of another loop for a different xDSL technology, if the new xDSL technology were to cause significant degradation.[150]

Regarding the role of BGM in national standard-setting bodies, SWBT's witness Mr. Russell states that "[c]ontributions have been submitted to T1E1.4 that define BGM as a process for manipulation of all technologies throughout the loop plant. These contributions state that BGM cannot always be done, and SWBT agrees. The contributions do not propose prohibiting BGM (or subsets thereof) only that it should not be required. To take a statement that something should not be required and convert it to a statement that something should not be allowed is an incorrect extrapolation. The contributions also state that some limited forms of BGM may be possible and could offer performance improvement in some cases."[151]

Regarding industry agreement on BGM, SWBT Witness Mr. McDonald responded to the criticism in the Bell Atlantic paper by indicating that it focused on the difficulty of manipulating the relative location of the pairs and binders used for all the various xDSL services to reduce the interference throughout the loop plant.[152] According to Mr. McDonald, SWBT's plan of SFS only attempts to manage pairs and binders in the feeder plant, and therefore can be distinguished from the criticism of Bell Atlantic.[153] Further, he asserts that limited SFS for ADSL and T-1 carrier in the feeder plant is effective, and the principle underlying SFS is commonly accepted.[154]

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[148] *Id.* at 11.

[149] SWBT Exhibit 26, Supplemental Rebuttal Testimony of William Deere at 17 (May 28, 1999).

[150] *Id.*

[151] SWBT Exhibit 29, Supplemental Rebuttal Testimony of Mark Russell at 3 (May 28, 1999).

[152] SWBT Exhibit 9, Rebuttal Testimony of McDonald at 10 (April 8, 1999).

[153] *Id.*

[154] *Id.* at 10-11.

SWBT suggests the best guide for policymakers is the development of an industry-wide consensus on the management of interference.[155]

Award

The Arbitrators find that an industry consensus does not exist as to whether there is a technically sound basis to implement a BGM program for xDSL services. Although the industry has apparently been collectively addressing spectrum management issues through the ANSI T1E1 working group, no solution appears to have been found. SWBT's arguments regarding industry agreement on BGM are not persuasive, particularly in light of Petitioners' testimony and the clear lack of consensus among Parties in this proceeding on the acceptability of SWBT's proposed SFS program. However, the Arbitrators do agree with SWBT's suggestion that the best guide for policymakers is the development of an industry-wide consensus on the management of interference, and urge Parties to work toward that objective. The Arbitrators note that the § 271 DSL Working Group was created to develop spectrum management standards in Texas where no current industry standards exist.

The Arbitrators therefore order that SWBT stop using its proposed spectrum management process, SFS. The Arbitrators find that to impose SWBT's current spectrum management standards on all xDSL providers would impose a unilateral standard on Petitioners, and would not be consistent with the *Advanced Services Order*.[156] The SFS process further has the effect of discriminating against deployment of xDSL services other than ADSL, especially in relation to the availability of clean copper loops for use by xDSL providers. The Arbitrators order SWBT to remove any restrictions imposed by SWBT on use of pairs for non-ADSL xDSL services, either through designations in the LFACS and LEAD databases or by the rules in LFACS limiting deployment of non-ADSL xDSL services to certain pair ranges.

The Arbitrators note that the *Advanced Services Order* establishes certain spectrum management rules relevant to the review of this specific issue. In that Order, the FCC first finds

[155] *Id.* at 14.

[156] *Advanced Services Order* at ¶ 63.

that uniform spectrum management procedures are essential to the success of advanced services deployment. Further, the FCC concludes that the incumbent LEC must provide competitive LECs with nondiscriminatory access to the incumbent LEC's spectrum management procedures and policies. The procedures and policies that the incumbent LEC uses in determining which services can be deployed must be equally available to competitive LECs intending to provide service in an area.[157] The FCC also recognizes that there may be a limit to the number of lines delivering advanced services that can share a binder group without interfering with other customers' services.[158] The FCC recognizes that early attention to binder group management issues will guard against problems arising as advanced services reach higher penetration, and seeks further comment on managing binder groups as a part of the Notice of Proposed Rulemaking associated with the *Advanced Service Order*.[159] In order to prevent delay in the deployment of new technologies, the FCC encourages the industry to apply a "test and see" strategy, which would allow competitive LECs and incumbent LECs to cooperate in testing and deployment of new services.

The Arbitrators find that SWBT shall not reserve loop complements for ADSL services exclusively. SWBT witness Deere states, "[i]f a cable is large enough to allow controlling loop assignments without restricting the availability of xDSL loops to a CLEC, there is no harm or discrimination."[160] The Arbitrators find that the reservation of cable complements for the specific technology being utilized by SWBT's retail operations would give SWBT an unfair competitive advantage. Further, such a practice does not create availability of xDSL capable loops on a nondiscriminatory basis. While the FCC is currently seeking comment on whether to allow ILECs to segregate xDSL technologies,[161] the Arbitrators find that the particular segregation practices used by SWBT and the manner in which they have been deployed, do not manage the spectrum in a competitively neutral or efficient manner. The Arbitrators therefore

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[157] *Id.* at ¶ 72.

[158] *Id.* at 76.

[159] *Id.* at n. 185.

[160] SWBT Exhibit 26, Supplemental Rebuttal Testimony of William Deere at 17, (May 28, 1999).

[161] *Advanced Services Order* at ¶ 86.

order SWBT to release binder groups that have already been marked as "ADSL only." The Arbitrators find that SWBT cannot segregate xDSL technologies into designated binder groups without Commission review and approval. Where SWBT has already implemented BGM or reserved loop complements, SWBT must open those binder groups to all xDSL services and all xDSL providers. The Arbitrators find that this is technically sound and feasible and will not cause network harm. It should also lower competitors' costs to the extent more clean copper loops are available that do not require conditioning. Further, making the segregated pairs available for use for all xDSL services will encourage the deployment of advanced services in Texas.

13. Should SWBT be required to provide disclosure of the causes for loop non-availability associated with a BGM program?

Parties' Positions

Rhythms witness Kennedy asserts that there should not be any denial of loops based on BGM.[162] He indicates that the only reasons why Rhythms would be getting a rejection are that the service is not available because of the presence of a DLC, or there is no facility available whatsoever, not because of spectrum management.[163]

Covad argues that the *Advanced Services Order* does not allow SWBT to deny provisioning a loop unless it first justifies that denial before this Commission.[164]

SWBT states that it recognizes the need to comply with the *Advanced Services Order* with respect to denial of CLEC orders. SWBT intends to provide information to the CLEC upon denial of an order, including the specific reason for rejection, the number and type of technologies deployed on that cable, and whatever other information would be relevant. SWBT

[162] Tr. at 1733 (June 5, 1999).

[163] *Id.*

[164] DPL at 34 (May 28, 1999).

witness Mr. Samson indicates that the reasons for denial may include a scenario in which the customer is served by fiber or DLC, or it could be that there is physically no pair available.[165]

Award

In DPL Issue No. 12, the Arbitrators determined that SWBT's proposed spectrum management process should not be used at this time. As a result, there should be no denials based on spectrum management issues. However, in the event that an order is denied for some other reason, the Arbitrators conclude that SWBT shall be required to provide full disclosure, consistent with the *Advanced Services Order*[166] and T2A Attachment 25, Section 4.2.[167] In the event SWBT rejects a request by Petitioner for provisioning of advanced services, including, but not limited to denial due to fiber, DLC, or DAML facility issues, SWBT is required to disclose to the requesting Petitioner the specific reason for the rejection within 48 hours of the request. The reason for rejection shall be filed under Public Utility Commission Project No. 21696. In no event shall the denial be based on loop length. *See* DPL Issue No. 1.

14. In the event a technically reasonable BGM process can be developed, can SWBT unilaterally impose its own interference tables or should a neutral third party be empowered to do so?

Parties' Positions

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[165] Tr. at 1730-1731 (June 5, 1999).

[166] *Advanced Services Order* at ¶ 73:
We conclude that incumbent LECs must disclose to requesting carriers information with respect to the rejection of the requesting carrier's provision of advanced services, together with the specific reason for the rejection. The incumbent LEC must also disclose to requesting carriers information with respect to the number of loops using advanced services technology within the binder and type of technology deployed on those loops. We believe that such disclosure will allow for a more open and accessible environment, foster competition, and encourage deployment of advanced services.

[167] T2A Attachment 25, Section 4.2:
SWBT shall not deny a CLEC's request to deploy any loop technology that is presumed acceptable for deployment, or one that is addressed in Section 4.3 of this Attachment, unless it has demonstrated to the Commission that the CLEC's deployment of the specific loop technology will significantly degrade the performance of other advanced services or traditional voice band

Rhythms argues that SWBT's self-generated spectrum BGM plan, which includes its own defined interference tables, has not been reviewed by a regulatory body or agreed to by any national standards forums such as ANSI, or by affected CLECs. Rhythms argues that there is no justification for allowing SWBT to implement a plan that no one has reviewed, commented upon, or approved. According to Rhythms, to the extent SWBT's proposed interference tables place limitations on Rhythms' ability to provide multiple xDSL services, Rhythms will be significantly and detrimentally limited in its provision of services in Texas.[168] Rhythms points out that the "interference tables have so many flaws that they are useless as the basis for *any* spectrum management program of the type and scope contemplated by SWBT," and argues that the tables have been based on a single manufacturer and on a specific technology.[169]

Covad argues that SWBT's BGM plan relies on several assumptions regarding the interference from loops in the same and adjacent binders that do not apply to actual loop plant conditions. According to Covad, the tables focus only on ADSL services and rely on analogous tables showing how other xDSL services are affected by the presence of T1, HDSL, IDSL, ADSL, or other xDSL services. Covad points out that the interference tables are theoretical information and necessarily assume the existence of outside plant data regarding the relative position of loops.[170]

SWBT claims that the interference tables can predict the interference due to xDSL technology.[171] SWBT asserts that, while awaiting the completion of a national standard, it is important that spectrum management using interference tables be performed. SWBT states that it is important that performance prediction be based on what can be achieved by actual equipment and that the interference tables were generated by measuring the performance of actual equipment. Further work is ongoing to make performance prediction more robust and to

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services. For the purpose of this section, "significantly degrade" means to noticeably impair a service from a user's perspective.

[168] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 31 (Feb. 19, 1999).

[169] ACI Exhibit 21, Supplemental Direct Testimony of Rand Kennedy at 5 (May 24, 1999).

[170] Covad Exhibit 42, Supplemental Direct Testimony of Anjali Joshi at 4 (May 24, 1999).

[171] SWBT Exhibit 29, Supplemental Rebuttal Testimony of Mark Russell at 4 (May 28, 1999).

take into account the various aspects of the loop plant. According to SWBT, the models used in generating the interference tables are applicable for predicting performance in actual deployment.[172] SWBT indicates that an update could be generated, if deemed appropriate.[173]

Award

The Arbitrators find that a unilateral imposition of SWBT's interference tables upon Petitioners is inappropriate and may result in discrimination against competitors in the highly competitive sphere of advanced services. SWBT cannot, as required under the *Advanced Services Order,* "unilaterally set spectrum compatibility and spectrum management policies." [174] The FCC was clear in the *Advanced Services Order* that ILECs shall not impose unilateral spectrum management conditions on CLECs. [175] The Arbitrators adhere to the FCC's reasoning that, rather than unilateral ILEC-determined standards and practices on spectrum management policies, there should be a competitively neutral spectrum setting process, and note that Attachment 25 of the T2A creates a one-year § 271 Working Group to set competitively neutral standards.[176]

The Arbitrators conclude that SWBT's interference tables are not suitable for predicting performance for any type of xDSL other than possibly ADSL. Moreover, it is questionable

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[172] *Id.* at 7.

[173] *Id.* at 9.

[174] *Advanced Services Order* at ¶ 79.

[175] *Id.*

[176] T2A, Attachment 25, Sec. 8.4:
In the event that a loop technology without national industry standards for spectrum management is deployed, SWBT, CLECs and the Commission shall jointly establish long-term competitively neutral spectral compatibility standards and spectrum management rules and practices so that all carriers know the rules for loop technology deployment. The standards, rules and practices shall be developed to maximize the deployment of new technologies within binder groups while minimizing interference, and shall be forward-looking and able to evolve over time to encourage innovation and deployment of advanced services. These standards are to be used until such time as national industry standards exist. CLECs that offer xDSL-based service consistent with mutually agreed-upon standards developed by the industry in conjunction with the Commission, or by the Commission in the absence of industry agreement, may order local loops based on agreed-to performance characteristics. SWBT will assign the local loop consistent with the agreed-to spectrum management standards.

whether the interference tables are even suitable for ADSL deployment.[177] Covad and Rhythms stated that they plan to implement many types of xDSL through the resulting Interconnection Agreements. However, SWBT's interference table is insufficient to properly manage the variety of xDSL Petitioners plan to deploy. The interference tables may serve as an impediment to deployment of non-ADSL technologies, and may be insufficient for ADSL applications. For all of these reasons stated, the Arbitrators conclude that SWBT shall not unilaterally impose its interference tables on Petitioners.

The Arbitrators also conclude that the *Advanced Services Order* directed carriers to use competitively neutral standards with regard to spectrum management. Thus, to the extent the Parties use spectrum management in the deployment of xDSL technologies, such management policies, procedures, and guidelines shall be developed collaboratively between Parties, consistent with this Award and the procedure established by this Commission for the § 271 DSL Working Group. Further, Parties shall adhere to national or industry-wide accepted standards for spectrum management of xDSL technology as those standards are adopted.

14(a). Should the Interconnection Agreement adopt all the requirements of the March 31, 1999 First Order in CC Docket No 98-147 regarding spectrum compatibility and management?

Parties' Positions

Rhythms contends that as long as its technology is consistent with the FCC's compatibility rules, the technology can be connected to the PSTN with reasonable confidence that the technology will not significantly degrade the performance of other advanced services, and will not impair traditional voice grade services.[178] Rhythms witness Mr. Geis highlights the FCC's stated concern that allowing ILECs to have unilateral authority over spectrum management would stifle deployment of competitive and innovative services.[179] Rhythms argues

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[177] ACI Exhibit 21, Supplemental Direct Testimony of Rand Kennedy at 5 - 6 (May 24, 1999); ACI Exhibit 22, Supplemental Direct Testimony of Philip Kyees at 3 - 9 (May 24, 1999).

[178] Post-Hearing Brief of ACI at 49-50; *Advanced Services Order* at ¶ 66.

[179] ACI Exhibit 6, Rebuttal Testimony of Eric H. Geis at 11 (April 8, 1999).

that SWBT's proposals for spectrum compatibility and management "have had precisely this chilling effect in Texas."[180]

Covad states that the *Advanced Services Order* specifically defines the obligations of SWBT and the CLECs with respect to spectrum compatibility and management. Covad proposes to adopt into the resulting Interconnection Agreements the language of the *Advanced Services Order* not already included in the Agreements.[181]

SWBT indicates that it will follow the guidelines as set forth in the *Advanced Services Order*.[182]

Award

The Arbitrators find that the spectrum compatibility and management requirements of the *Advanced Services Order* are the appropriate standards to be adopted in this Award. The *Advanced Services Order* became effective before the date of this Award, and its requirements are thus incorporated herein and should be incorporated into the resulting Interconnection Agreements.[183]

14(b). Should SWBT be required to keep CLEC deployment information confidential from any people involved in SWBT's or any affiliate's retail DSL offerings?

Parties' Positions

Rhythms witness Mr. Geis expresses concern with respect to SWBT's request that CLECs submit lists of central offices, in priority order, where the CLEC is planning to provide

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[180] *Id.* at 11 - 12.

[181] DPL at 35 (May 28, 1999).

[182] DPL at 34 (May 28, 1999); *Advanced Services Order* at ¶¶ 72 – 73.

[183] The *Advanced Services Order* was issued on March 31, 1999, after the request for arbitration was filed. The Order became effective on June 1, 1999, after the hearing on the merits commenced. However, the hearing on the merits did not conclude until June 10, 1999, after the Order became effective.

service, in order to establish their loop qualification process. Mr. Geis indicates that the priority list of central offices is highly proprietary, and should not be given to competitors.[184]

Covad asserts, and SWBT does not dispute, that SWBT's wholesale team has already provided competitively sensitive CLEC xDSL deployment information to SWBT's retail team.[185] Covad argues strongly that SWBT should not disclose sensitive information regarding the specific type of service Covad is supplying to specific customers, the amount of any particular type of services Covad is providing, or Covad's central office deployment schedule to Covad's competitors, including SWBT's own retail operations.

SWBT agrees that the confidential information it obtains from CLECs regarding xDSL deployment should not be disclosed to SWBT employees involved in retail xDSL marketing, or to employees of any SWBT affiliate that offers retail xDSL service.[186] SWBT indicates that some of its employees, primarily operations personnel, are necessarily involved in xDSL deployment at both the wholesale and retail level, but that those personnel do not market xDSL. SWBT indicates that its procedures to prevent the unauthorized transfer of competitive information to marketers are sufficient for xDSL deployment, just as they are for provision of other UNEs.[187]

Award

The Arbitrators conclude that SWBT is required to keep CLEC deployment information confidential from SWBT's retail operations, any SWBT affiliate, or any other CLEC. The disclosure of such highly sensitive information would be an anti-competitive, discriminatory and prejudicial action by SWBT against its competitors in violation of the FTA and PURA and threatens the further development of a competitive advanced services market in Texas. The

[184] ACI Exhibit 6, Rebuttal Testimony of Eric H. Geis at 20 (April 8, 1999); *See* DPL Issue No. 16.

[185] Covad Ex. 34 is an e-mail from Paula Perry of SWBT to Rusty Goodson, a member of SWBT's *Retail* Core Team. Attached to the e-mail is a table that lists, among other things, the central offices in various cities in Texas in which Covad, Rhythms, and other CLECs are already collocated or in which they seek xDSL deployment.

[186] SWBT Post-Hearing Brief at 38 (Aug. 17, 1999).

[187] *Id.* at n. 125.

Arbitrators find CLEC deployment information to be proprietary in nature, and thus find the disclosure of CLEC deployment information by SWBT to its retail operation to be grave. Therefore, the Arbitrators additionally order SWBT to take all measures to ensure that CLEC deployment information is neither intentionally nor inadvertently revealed in the future to any part of SWBT's retail operations, any affiliate, or any other CLEC without prior authorization from the affected CLEC.

IV. Provisioning

DPL Issue Nos. 15-22

15. Is SWBT required to provide real time access to OSS for loop makeup information qualification, preordering, provisioning, repair/maintenance and billing?

Parties' Positions

Rhythms maintains that it must have access to electronic, automated systems that allow rapid and efficient access to pre-ordering information about the technical make-up of a potential customer's loop, and to on-line ordering and maintenance systems.[188] Rhythms asserts that SWBT must provide real time access to all OSS functionalities at parity to what SWBT provides to itself on the retail side.[189] Rhythms argues that it must be in parity with the data access available to SWBT's retail operations, and not experience any artificial handicaps or delays imposed by SWBT.[190] Rhythms witness Ms. Gentry provides the example of an electronic ordering system in use in California whereby customers have been able to obtain loop make-up information, place the order, and receive a price quote and due date for an xDSL service in less

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[188] ACI Exhibit 2, Direct Testimony of Jo Gentry at 6 (Feb. 19, 1999).

[189] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 33-36 (Feb. 19, 1999); ACI Exhibit 2, Direct Testimony of Jo Gentry at 7-9 (Feb. 19, 1999); ACI Exhibit 20, Supplemental Direct Testimony of Jo Gentry at 6–7, 10-23 (May 24, 1999) (Confidential); ACI Exhibit 19, Supplemental Direct Testimony of Eric Geis at 14-19 (May 24, 1999) (Confidential); ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 19-21, 23-24 (April 8, 1999); ACI Exhibit 9, Rebuttal Testimony of Mike Kersh at 4-6 (April 8, 1999); ACI Exhibit 7, Rebuttal Testimony of Jo Gentry at 3 (April 8, 1999).

[190] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 35 (Feb. 19, 1999).

than 14 minutes, start to finish. Ms. Gentry points out that a manual system may cause this process to take days.[191] Rhythms asserts that an electronic ordering system should support an automatic flow-through process that enables a CLEC employee to place orders on-line.[192] If SWBT does not have real-time access available, Rhythms recommends that it should be required to develop such a system within six months.[193]

Rhythms also states that it appears that SWBT's LFACS and LEAD databases have all of the loop makeup information Rhythms needs for pre-ordering DSL-capable loops.[194]

Rhythms witness Ms. Gentry asserts "that the systems and processes SWBT intends to employ are specifically tailored for, and will strongly favor, SWBT's own chosen type of ADSL, thereby affirmatively restricting or precluding the provision of other types of DSL-based services by ACI and other CLECs."[195] Ms. Gentry cites the lack of parity between the manner in which loop qualification requests are transmitted (by mail or fax) by CLECs, compared to the e-mail access available to SWBT's retail operations.[196] Ms. Gentry also makes reference to SWBT's planned Loop Qual system for obtaining loop make-up information, noting that the enhanced CPSOS system will be available to SWBT's retail operations, including mechanized order flow-through. However, CLECs must take extra steps to process orders, even after being given access to pre-ordering functions through Verigate/ Datagate.[197]

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[191] ACI Exhibit 2, Direct Testimony of Jo Gentry at 8 (Feb. 19, 1999).

[192] ACI Exhibit 2, Direct Testimony of Jo Gentry at 15 (Feb. 19, 1999).

[193] *Id.*

[194] ACI Post-Hearing Brief (Confidential Version) at 69, citing ACI Ex. 149a, Phillips Tr. 160; McDonald Tr. 8, 9:20-22, 14; ACI Ex. 34; ACI Ex. 39.

[195] ACI Exhibit 20, Supplemental Direct Testimony of Jo Gentry at 3-4 (May 24, 1999).

[196] *Id.* at 16.

[197] *Id.* at 16-17.

Covad argues SWBT's LFACS database contains all or most of the information necessary to determine whether a loop is capable of transmitting xDSL signals.[198] To achieve true non-discriminatory access, Covad continues, CLECs must have read-only access to the same information.[199] Covad observes that, according to the deposition of SWBT employee Ms. Bird, several departments in SWBT already have read-only access to LFACS for various purposes.[200] Even if a CLEC has access to the loop makeup information, Covad asserts that SWBT still must provide a mechanized loop ordering interface to achieve flow-through parity with its own retail service offerings.

SWBT describes its process that includes pre-qualification, ordering, and loop qualification for ADSL loops.[201] SWBT witness Auinbaugh indicated that SWBT is developing a mechanized pre-qualification process to indicate whether a loop serving a particular location is capable of supporting ADSL technology.[202] The mechanized pre-qualification process generally categorizes the loops into those with a length of less than 12,000 feet, those that are between 12,000 feet and 17,500 feet, and those that are in excess of 17,500 feet, or have non-copper facilities on the loop. In subsequent testimony and cross-examination, SWBT witnesses Auinbaugh, Deere, and Phillips maintain that the pre-qualification process is entirely an option to the CLEC, as is any conditioning that may be desired.[203] Mr. Auinbaugh then describes the CLEC's loop ordering process, which includes a manual loop qualification procedure. During this procedure, the engineering group provides the loop make-up, which includes details

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[198] Covad Exhibit 43A, Supplemental Direct Testimony of Sandee Turner at 7-8 (May 24, 1999) (Confidential); ACI Exhibit 149A, Bird Deposition at 14–16; 27–29; 63–65 (May 6, 1999); ACI Exhibit 149A, D. McDonald Deposition at 33–36 (May 12, 1999).

[199] Covad Exhibit 45, Supplemental Rebuttal Testimony of Dhruv Khanna at 4-5 (May 28, 1999).

[200] Covad Exhibit 43A, Supplemental Direct Testimony of Sandee Turner at 8 (May 24, 1999) (Confidential).

[201] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbaugh at 7-14 (Feb. 19, 1999); SWBT Exhibit 2, Direct Testimony of William C. Deere at 14 (Feb. 19, 1999).

[202] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbauh at 8 (Feb. 19, 1999).

[203] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbauh at 20 (Feb. 19, 1999); SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 15 (April 8, 1999); SWBT Exhibit 26, Supplemental Rebuttal Testimony of William C. Deere at 8 (May 28, 1999); SWBT Exhibit 28, Supplemental Rebuttal Testimony of George R. Phillips, Jr. at 2-3 (May 28, 1999).

regarding loop length, bridged taps, load coils, repeaters, and a verification of loop and spectrum feasibility.[204]

SWBT witness Mr. Deere reiterates that SWBT does not currently have an electronic database that contains all of the loop make-up information being sought by Petitioners.[205] During cross-examination, he indicated that the two items that are usually missing from the LFACS database are indicators of actual loop length and the presence of bridged tap.[206] Mr. Deere believes that the complete loop makeup in electronic form exists for less than 21% of SWBT's central offices.[207] He further emphasizes that SWBT does not use a loop make-up database for the provision of retail ADSL services.[208] SWBT contends that the LFACS database is not the type of robust system that is capable of providing real-time access to either CLECs or SWBT's retail ADSL operations.[209]

SWBT witness Mr. Phillips indicates that since April 1, 1999, SWBT has made its SORD ordering system available for CLEC use, providing the ability to submit electronic orders for xDSL loops.[210] Mr. Phillips also describes a new database, "Loop Qual," that is being developed to provide electronic access to loop make-up information to customers on the retail side as well as the wholesale side.[211] This system contains at least five fields of information: basic qualification (red/yellow/green), wire center, taper code, loop makeup, and 26 gauge equivalent

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[204] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbauh at 10-11 (Feb. 19, 1999). The Arbitrators note that Mr. Auinbauh also testified regarding flow-through requirements for orders as follows:

> Q. (Phillips) Okay. Do you think that SWBT is required to give to ACI and Covad the same level and degree of flow-through for their UNE loop orders that is present for your retail ADSL orders?
> A. (Auinbauh) Actually, no. Tr. at 1859 (June 5, 1999).

[205] SWBT Exhibit 26, Supplemental Rebuttal Testimony of William C. Deere at 3 (May 28, 1999).

[206] Tr. at 1825 (June 5, 1999).

[207] SWBT Exhibit 26, Supplemental Rebuttal Testimony of William C. Deere at 5 (May 28, 1999).

[208] *Id.* at 3.

[209] Tr. at 1974 (June 5, 1999).

[210] SWBT Exhibit 28, Supplemental Rebuttal Testimony of George R. Phillips, Jr. at 6 (May 28, 1999).

[211] Tr. at 1864-1865 (June 5, 1999).

length. Mr. Deere states that this information is mostly theoretical point design data.[212] This database should be accessible by CLECs through the Verigate system, and it is scheduled to be on line by December 1999.[213]

Award

The Arbitrators find that SWBT must provide Petitioners with nondiscriminatory access, whether that access is available by electronic or manual means, to its OSS functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing for DSL-capable loops. This includes "the manual, computerized, and automated systems, together with associated business processes and the up-to-date data maintained in those systems."[214] Petitioners must be given nondiscriminatory access to the same OSS functions that SWBT is providing any other CLEC and/or SWBT or its advanced services affiliate. This includes any operations support systems utilized by SWBT's service representatives and/or SWBT's internal engineers and/or by SWBT's advanced services affiliate to provision its own retail xDSL service.[215]

The Arbitrators' decision is consistent with the FCC's recent findings in the *UNE Remand Order*. While not modifying the definition of OSS, the FCC clarified that "the pre-ordering function includes access to loop qualification information." Loop qualification information identifies the physical attributes of the loop plant (such as loop length, the presence of analog load coils and bridge taps, and the presence and type of Digital Loop Carrier) that enable carriers to determine whether the loop is capable of supporting xDSL and other advanced technologies. This information is needed by carriers seeking to provide advanced services over those loops through the use of packet switches and DSLAMs."[216] The FCC also elaborated on the ILEC's obligation to provide requesting carriers the same underlying information the ILEC

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[212] Tr. at 1979 (June 5, 1999).

[213] Tr. at 1872-1875 (June 5, 1999) (SWBT is currently "masking" four of the data fields from use and view); 1949 (June 5, 1999).

[214] *UNE Remand Order* at ¶ 425.

[215] *Id.* at ¶¶ 427-430.

[216] *Id.* at ¶ 426.

has in any of its own databases or other internal records, and gives examples of the types of information to be provided.[217] The Arbitrators adopt the FCC's findings on the requirements associated with access to loop makeup information found in the *UNE Remand Order*.

SWBT has provided sworn testimony that it does not use a loop make-up database for the provision of retail ADSL services.[218] It is clear from evidence in this case, however, that some SWBT employees involved with retail ADSL have access to databases containing useful loop makeup information that are not available to CLECs. As an example, evidence reveals that at least one member of SWBT's ADSL Retail Core Team, the Manager of the Loop Assignment Center, Methods and Procedures, also has responsibilities with respect to the LFACS database.[219] Further, SWBT's outside plant engineers and loop assignment center personnel have access to the LFACS and LEAD databases that contain valuable loop makeup information sought by CLECs.[220] The Arbitrators are troubled by the inconsistencies regarding the relationship between SWBT's retail and wholesale operations, and find that the issue of nondiscriminatory access must be further addressed. SWBT should not be allowed to assign employees to both wholesale and retail responsibilities, nor should SWBT employees be allowed access to information that in any way may advantage its retail advanced services operations over those of its competitors. Remedies to address the Arbitrators' concerns will be included in the discussion of DPL Issue No. 16.

The Arbitrators also note that SWBT has stated that in addition to the number of central offices for which inventories had been requested by CLECs, an additional 271 central offices are

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[217] *UNE Remand Order* at ¶¶ 427-431; 47 C.F.R. §§ 51.319(g) and 51.5. *See also* SBC/Ameritech Merger Order at ¶¶ 371-374 and SBC/Ameritech Merger Order Appendix C at ¶ 20.

[218] SWBT Exhibit 26, Supplemental Rebuttal Testimony of William C. Deere at 3 (May 28, 1999).

[219] ACI Exhibit 149A, Deposition of Victoria Bird at 48-49, 130-134 (May 6, 1999).

[220] ACI Exhibit 149A, Bird Deposition at 36, 45-46, 60-62, 112-114, 177-183 (May 6, 1999); *Id.*, Goodson/Wren Deposition at 238-246 (May 6, 1999).

expected to be inventoried for SWBT's own purposes before the end of 1999.[221] All of this inventory information should be made available for use in providing loop makeup information.

In addition, in order to encourage deployment of advanced services throughout Texas, and because the LFACS and LEAD databases currently contain valuable loop makeup information accessible to SWBT personnel,[222] and because SWBT is already currently working to provide electronic processes for preordering and ordering of advanced services,[223] the Arbitrators find that SWBT must provide real time, electronic access to all systems needed for efficient provisioning of advanced services such as xDSL. SWBT's pre-qualification and loop qualification systems as currently described are *not* a reasonable substitute for pre-order access to actual loop makeup information. SWBT's current systems involve the application of SWBT's ADSL design parameters to the qualification of loops to be used for technologies that may far exceed SWBT's service offerings, and focus on theoretical loop makeup rather than actual loop makeup.[224]

The Arbitrators order SWBT to develop and deploy enhancements to its existing Datagate and EDI interfaces that will allow CLECs, as well as SWBT's retail operations or its advanced service subsidiary, to have real-time electronic access as a preordering function to the loop makeup information described in DPL Issue No. 17. SWBT shall develop and deploy these enhancements as soon as possible, but not to exceed six months from the Award in this Arbitration.[225] The interim manual process for access to loop makeup information is addressed in DPL Issue Nos. 15(a) and 19(b) below.

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[221] Tr. at 1947 (June 5, 1999).

[222] In fact, SWBT witness Mr. Deere testified that SWBT network personnel currently access and use the information in the LFACS and LEAD databases to provide loop qualification information. Tr. at 1818-1819. *See also UNE Remand Order* at ¶ 430.

[223] *See, e.g.*, Tr. at 1864-1865 (June 5, 1999); Tr. at 1872-1875 (June 5, 1999); 1949 (June 5, 1999); SBC/Ameritech Merger Order at ¶¶ 371-374 and SBC/Ameritech Merger Order Appendix C at ¶¶ 15-20.

[224] *See UNE Remand Order* at ¶ 428.

[225] *See* SBC/Ameritech Merger Order at ¶ 374 and SBC/Ameritech Merger Order Appendix C at ¶ 20.

SWBT shall also develop and deploy enhancements to its existing Datagate and EDI interfaces to allow for ordering xDSL and other advanced services as soon as possible, but not to exceed six months from the Award in this Arbitration. Such enhancements shall ensure that orders for DSL-capable loops flow through at parity with comparable UNE orders, and SWBT's retail or advanced services affiliate's DSL orders. Also, as discussed and defined in Section II of this Award, Petitioners are ordering "DSL-capable" loops. The only varieties of DSL-capable loops are 2-wire xDSL loops and 4-wire xDSL loops. Therefore, any ordering process should not require Petitioners to specify a type of xDSL to be ordered. However, for each loop, Petitioners should at the time of ordering notify SWBT as to the type of PSD mask they intend to use, and if and when a change in PSD mask is made, Petitioners should notify SWBT. Likewise, SWBT should disclose to Petitioners "information with respect to the number of loops using advanced services technology within the binder and type of technology deployed on those loops."[226] The ordering process should also encompass any conditioning requested by Petitioners, *e.g.*, at the time of ordering, Petitioners should be able to instruct SWBT as to what conditioning is requested. The Arbitrators do not believe that any additional modifications to the current electronic ordering processes for UNE loops should be necessary, beyond those required to address the PSD mask and conditioning issues.

The Arbitrators also find that SWBT shall provide "trouble reports" to Petitioners for "any function or capability of the accessed loop element" and SWBT shall "not limit such reports to voice-transmission trouble only."[227] The FCC stated in ¶ 195 of the *UNE Remand Order*:

> Thus, we conclude that, in so far as it is technically feasible, the incumbent must test and report trouble on conditioned lines, if requested by the competitor, for all of the line's features, functions, and capabilities, and may not restrict its testing to voice-transmission only.

15(a). What is the appropriate interval for SWBT's xDSL-capable loop qualification process?

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[226] *Advanced Services Order* at ¶ 73.

[227] *UNE Remand Order* at ¶ 195.

Parties' Positions

Rhythms contends that SWBT should qualify a loop for a CLEC within four hours of receiving the order for the xDSL loop.[228] According to Rhythms witness Mr. Geis, new customers of the CLEC may be required to wait over 14 days for xDSL service on an unbundled loop under SWBT's proposal, and that interval may grow to 28 days or more in areas where neither SWBT nor CLECs are currently offering the service.[229] According to Rhythms witness Mr. Kersh, Pacific Bell responds to the CLEC request with loop qualification information (using the "12k/17k/18k" pre-qualification method) within one to 72 hours of receipt of the request.[230]

Covad argues that SWBT should offer a standard interval for loop qualification of four hours, as does its affiliate Pacific Bell.[231] Covad witness Mr. Haas expresses concern that SWBT's proposed loop qualification intervals do not allow competitors the opportunity to provide xDSL services in the same amount of time as SWBT's retail organization.[232]

SWBT indicates that it is committed to provisioning for xDSL loops under the same terms and conditions as SWBT provides on its tariffed ADSL product.[233] SWBT's proposed contract language describes the loop qualification interval as follows:

> Until a mechanized system is in place for loop qualification, requests for loop qualification shall be submitted to SWBT on a manual basis. A standard loop qualification interval of 3-5 days is available for requests in markets where the process is currently in place. In other markets, a maximum standard loop qualification interval of 15 days is available until loop qualification methods, procedures, and training are established for the central office. In an effort to establish the Loop Qualification Process by central office in the priority order desired by CLEC, CLEC will provide SWBT with a prioritized list of central office locations where CLEC has appropriate associated equipment, has or has

[228] ACI Proposed Contract Language, Revised Decision Point List Matrix, Section 4.X.4. (May 28, 1999).

[229] ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 19 (April 8, 1999).

[230] ACI Exhibit 9, Rebuttal Testimony of Mike Kersh at 5 (April 8, 1999).

[231] Revised DPL Matrix at 36 (May 28, 1999).

[232] Covad Exhibit 1, Direct Testimony of Charles A. Haas at 12-14 (Feb. 19, 1999).

[233] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbauh at 15 (Feb. 19, 1999); SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 17, and at Schedule 2 (April 8, 1999).

> ordered shielded cable, and intends to order access to ADSL Loops within 60 days of receipt of the list of central offices. SWBT will establish Loop Qualification Process methods, procedures, and training, for CLEC's 3 highest central office priorities and will meet with CLEC to establish a schedule for the remaining identified locations, if any. In any event, CLEC shall be entitled to the loop qualification interval of 3-5 days associated with any SWBT central office(s), which SWBT has completely inventoried for another CLEC or for SWBT's own purposes. After the initial loop qualification and installation on behalf of any CLEC in a given central office, a standard loop qualification interval of 3-5 days will be established.

During cross-examination, SWBT witness Mr. Auinbaugh agreed that in the worst case, the maximum allowable qualification and conditioning interval could reach 30 working days, or six weeks.[234] Mr. Samson indicated that in addition to the number of central offices for which inventories had been requested by CLECs, an additional 271 central offices are expected to be inventoried for SWBT's own purposes before the end of 1999, thus reducing the qualification interval.[235]

Award

The process of providing loop information to CLECs is clearly a critical step in the provision of xDSL services. The long-term goal for this interval should be measured in minutes or seconds, rather than days. SWBT's current process includes two types of loop qualification: (1) pre-qualification, which consists of the red/yellow/green zone designation based on algorithms tailored for SWBT's ADSL product; and (2) and a process containing five or more elements, including theoretical loop length. As discussed in DPL Issue Nos. 15 and 17, the Arbitrators believe SWBT must provide actual, real-time loop makeup information to CLECs rather than a pre-qualification or loop qualification process because SWBT's back office personnel have the ability to access relevant actual loop makeup information in real time through the back office databases.

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[234] Tr. at 1846 (June 5, 1999).

[235] *Id.* at 1947.

The FCC agreed with this approach in the *UNE Remand Order*, concluding that:

> access to loop qualification information must be provided to competitors within the same time intervals it is provided to the incumbent LEC's retail operations. To the extent such information is not normally provided to the incumbent LEC's retail personnel, but can be obtained by contacting incumbent back office personnel, *it must be provided to requesting carriers within the same time frame that any incumbent personnel are able to obtain such information.* It would be unreasonable, for instance, if the requesting carrier had to wait several days to receive such information from the incumbent, if the incumbent's personnel have the ability to obtain such information in several hours. In order to provide local exchange and exchange access service, a competitor needs such information quickly to be able to determine whether a particular loop will support xDSL service.[236] (emphasis added.)

Until such a real-time system is implemented, however, the Arbitrators find that SWBT's pre-qualification system should provide a response to Petitioners' queries within four hours for those central offices that have been inventoried. If a CLEC chooses to employ SWBT's manual pre-qualification system in a central office that has not been inventoried, the interval for receiving the response should be no longer than 10 business days. If a CLEC elects to have SWBT provide actual loop makeup information through a manual process, then the interval should be established as 3 business days. If SWBT can provide its retail ADSL personnel with actual loop makeup information in a shorter time frame, then the interval for a CLEC should be parity with that timeframe. At the time an electronically interfaced loop makeup system is implemented, the objective interval for obtaining loop make-up information should become a part of the body of OSS performance measures.

16. Upon request from Rhythms, is SWBT required to provide loop length and makeup data regarding specific central offices within a reasonable period of time from all central offices?

Parties' Positions

Rhythms contends that SWBT should provide loop make-up information to CLECs, but is concerned that SWBT is requiring up to 60 days to implement the loop qualification process in

[236] *UNE Remand Order* at ¶ 431.

each specific central office.[237] In addition, Rhythms disagrees with SWBT's request that CLECs submit a list of central offices, in priority order, where this process would be provided. Rhythms believes that such information is highly proprietary and should not be given to competitors.[238] Rhythms argues that Petitioners have already submitted over 100 collocation applications in Texas, and the loop inventory should be completed within the same time as the collocation request is completed.[239] According to Rhythms witness Mr. Kersh, SWBT's claim that it will take two months to perform an inventory for three offices is unreasonable, considering that it took Pacific Bell approximately three months to inventory 80 to 90 offices designated by CLECs in California.[240]

Rhythms' proposed contract language contains the following recommendation:

> 4.X.4. SWBT shall also provide to Rhythms the loop length and makeup of all loops served from Central Offices designated by Rhythms, within 60 days of submission of a request for each Central Office.

Covad does not provide evidence on this specific DPL issue. Covad reiterates its desire to receive computerized access to databases that contain loop make-up, repair, maintenance or billing information.[241]

Evidence submitted by SWBT does not address the issue of providing loop length and make-up of *all* loops in each central office designated by the CLEC. SWBT indicates that it has no obligation to supply detailed information about every loop in a central office. SWBT witness Mr. Deere asserts that loop makeup information is not contained in any single source, and that it would be very difficult and extremely expensive to compile for all central offices.[242] However,

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[237] ACI Exhibit 2, Direct Testimony of Jo Gentry at 13-14 (Feb. 19, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 20–21 (April 8, 1999); ACI Exhibit 9, Rebuttal Testimony of Mike Kersh at 4–5 (April 8, 1999); ACI Exhibit 7, Rebuttal Testimony of Jo Gentry at 2–3, 5-6 (April 8, 1999).

[238] ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 20 (April 8, 1999).

[239] *Id.* at 21.

[240] ACI Exhibit 9, Rebuttal Testimony of Mike Kersh at 5 (April 8, 1999).

[241] DPL at 43 (May 28, 1999).

[242] SWBT Exhibit 2, Direct Testimony of William C. Deere at 14-17 (Feb. 19, 1999), SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 11-12 (April 8, 1999).

SWBT witness Mr. Samson, testifies that SWBT expects to inventory 271 central offices for its own purposes prior to the end of 1999.[243]

SWBT presents evidence describing its loop pre-qualification plan that is being implemented in central offices in Texas, beginning with Austin, Dallas, and Houston.[244] For those central offices that have been inventoried for the purpose of loop pre-qualification, SWBT indicates that it will provide the results to CLECs in 3–5 business days. In areas that have not been inventoried, only the maximum loop qualification interval of 15 business days is available. Regarding the potential delay in conducting inventories, SWBT witness Mr. Auinbaugh testified that the 60 day interval for the office inventory could be running during the time in which the CLEC's collocation request is being provisioned.

Award

The Arbitrators view this issue as containing three major elements. The first is whether SWBT should be required to provide loop length and makeup information for individual loops as requested. The Arbitrators responded to this issue in the affirmative in DPL Issue No. 15.

The second element is whether CLECs will be required to furnish a prioritized list of areas in which they will serve, and the time interval within which SWBT is expected to inventory the central office. The Arbitrators find that CLECs should not be required to provide SWBT with a prioritized listing of central offices in which they plan to provide service. The CLECs already provide notification to SWBT when they order collocation, and SWBT should use that process as the signal to perform necessary inventories. The Arbitrators view further disclosure as unnecessary and contrary to the need for competitive confidentiality. Evidence in this proceeding shows that SWBT has already shared with its Retail ADSL Core Team members a listing of central offices in which CLECs have collocated or those in which CLECs are seeking

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[243] Tr. at 1947 (June 5, 1999).

[244] SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 9 (April 8, 1999); Tr. at 1945-1948 (June 5, 1999).

deployment.[245] The Arbitrators believe such disclosure of competitive information to SWBT retail ADSL employees is inappropriate, disadvantages competitors and must stop immediately.

The third component of this issue is whether or not SWBT should be required to provide loop makeup information for all existing or vacant loops within *all* its central offices. The Arbitrators find that in those central offices in which SWBT has completed its inventory, either in response to a CLEC request or for its own retail deployment, or for its separate advanced services subsidiary deployment, SWBT must provide the requested loop makeup information for all loops in the central office within three business days. For those central offices that have not yet been inventoried, the Arbitrators agree that "blanket" requests for immediate loop makeup details should not be supported at this time, but that such central offices should be inventoried according to a schedule based on collocation requests. SWBT has agreed to inventory the central offices within 60 calendar days of a request from a CLEC, and the Arbitrators find that such an interval is reasonable, so long as it is allowed to run concurrently with the collocation request in that central office.

In the *UNE Remand Order*, the FCC found that an incumbent LECs should not be required to "catalogue, inventory, and make available to competitors loop qualification information through automated OSS even when it has no such information available to itself." In those instances where an incumbent LEC has not compiled such information for itself, the FCC does not require the incumbent to conduct a plant inventory and construct a database on behalf of requesting carriers. The FCC did find, however, that an incumbent LEC that has manual access to this sort of information for itself, or any affiliate, must also provide access to it to a requesting competitor on a non-discriminatory basis. The FCC further stated that it expects that ILECs will be updating their electronic databases for their own xDSL deployment and, to the extent their employees have access to the information in an electronic format, that same format should be made available to new entrants via an electronic interface.[246]

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[245] *See* Covad Exhibit 34; Covad Post-Hearing Brief at 59 - 61 (Aug. 17, 1999).

[246] *UNE Remand Order* at ¶ 429.

However, this issue heightens the Arbitrators' concerns regarding the equality of information transfer between SWBT's retail and wholesale operations. Evidence shows that SWBT's ADSL Retail Core Team personnel have had access to network assignment databases that could easily allow SWBT's retail operations to gain significant advantage over their competitors.[247] The Arbitrators need further assurance that competitively beneficial information is not being passed from SWBT's network provisioning operations to its retail service operations. An arms-length separation, *e.g.*, a separate advanced service subsidiary as proposed in the SBC-Ameritech merger conditions,[248] would be one solution to the Arbitrators' concerns. Until such separation is accomplished, however, the Arbitrators instruct SWBT to prepare a plan for approval by the Commission within 45 calendar days of this Award, whereby "firewalls" are constructed between SWBT's retail and wholesale organizations, the purpose of which is to restrict the flow of competitively beneficial information.

17. What data should be included in the makeup data?

Parties' Positions

Rhythms contends that it must be provided with information about the physical makeup of the xDSL loop; including loop length, wire gauge, presence and number of repeaters, load coils and bridged tap and existence of DLC systems or DAMLs.[249] Because different xDSL technologies are best suited for different loop conditions, Rhythms needs the loop makeup information in order to adapt the type of xDSL service to the available loop.[250]

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[247] ACI Exhibit 149A, Deposition of Victoria Bird at 48-49, 130-134 (May 6, 1999); ACI Exhibit 19, Supplemental Direct Testimony of Eric H. Geis at 14-15 (May 24, 1999).

[248] *In re Applications of Ameritech Corp., Transferor, And SBC Communications Inc., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95 and 101 of the Commission's Rules*, CC Docket No. 98-141, Memorandum Opinion And Order (rel. Oct. 8, 1999) (*SBC-Ameritech Merger Order*).

[249] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 34 (Feb. 19, 1999); ACI Exhibit 2, Direct Testimony of Jo Gentry at 7–8 (Feb. 19, 1999); ACI Exhibit 7, Rebuttal Testimony of Jo Gentry at 6–7 (April 8, 1999); ACI Exhibit 20, Supplemental Direct Testimony of Jo Gentry at 6–9 (confidential) (May 24, 1999).

[250] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 35 (Feb. 19, 1999).

Covad maintains that loop makeup information, at a minimum, should include the loop length, existence and length of bridged taps, existence of load coils, average wire gauge, presence and type of DLC, and ISDN readiness.[251] Covad argues that SWBT's databases have all this information.[252]

SWBT witness Mr. Phillips indicates that SWBT will soon implement a pre-qualification system, accessible through VERIGATE, that will provide the loop length stated as 26 gauge equivalent, the wire center, an indication if the pair is loaded or non-loaded, the taper code, and the red/green/yellow qualification indicator.[253] In addition, SWBT witness Mr. Auinbaugh indicates that SWBT will soon implement modifications to its LEX/EDI ordering gateway that will provide the loop length stated as 26 gauge equivalent or as actual gauge makeup, the absence or presence of load coils, the presence of bridged tap, repeaters, and or DLC.[254]

Award

The Arbitrators find that the loop makeup data should include the following: (a) the actual loop length; (b) the length by gauge; and (c) the presence of repeaters, load coils, or bridged taps; and shall include, if noted on the individual loop record, (d) the approximate location, type, and number of bridged taps, load coils, and repeaters; (e) the presence, location, type, and number of pair-gain devices, DLC, and/or DAML, and (f) the presence of disturbers in the same and/or adjacent binder groups. The Arbitrators find that SWBT should provide to the CLEC any other relevant information listed on the individual loop record but not listed above.

The Arbitrators' position is consistent with the decision of the FCC in the recent *UNE Remand Order*. With respect to this issue, the FCC found that:

> "an incumbent LEC must provide the requesting carrier with nondiscriminatory access to the same detailed information about the loop that

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[251] Covad Exhibit 43, Supplemental Direct Testimony of Sandee Turner at 3 (May 24, 1999).

[252] *Id.* at 8.

[253] Tr. at 1877 (June 5, 1999).

[254] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbauh at 14 (Feb. 19, 1999).

> is available to the incumbent, so that the requesting carrier can make an independent judgment about whether the loop is capable of supporting the advanced services equipment the requesting carrier intends to install. Based on these existing obligations, we conclude that, at a minimum, incumbent LECs must provide requesting carriers the same underlying information that the incumbent LEC has in any of its own databases or other internal records. For example, the incumbent LEC must provide to requesting carriers the following: (1) the composition of the loop material, including, but not limited to, fiber optics, copper; (2) the existence, location and type of any electronic or other equipment on the loop, including but not limited to, digital loop carrier or other remote concentration devices, feeder/distribution interfaces, bridge taps, load coils, pair-gain devices, disturbers in the same or adjacent binder groups; (3) the loop length, including the length and location of each type of transmission media; (4) the wire gauge(s) of the loop; and (5) the electrical parameters of the loop, which may determine the suitability of the loop for various technologies. Consistent with our nondiscriminatory access obligations, the incumbent LEC must provide loop qualification information based, for example, on an individual address or zip code of the end users in a particular wire center, NXX code, or on any other basis that the incumbent provides such information to itself."[255]

In that same decision, the FCC clarified that "the relevant inquiry is not whether the retail arm of the incumbent has access to the underlying loop qualification information, but rather whether such information exists anywhere within the incumbent's back office and can be accessed by any of the incumbent LEC's personnel. Denying competitors access to such information, where the incumbent (or an affiliate, if one exists) is able to obtain the relevant information for itself, will impede the efficient deployment of advanced services. To permit an incumbent LEC to preclude requesting carriers from obtaining information about the underlying capabilities of the loop plant in the same manner as the incumbent LEC's personnel would be contrary to the goals of the Act to promote innovation and deployment of new technologies by multiple parties."[256]

18. Can SWBT impose a loop qualification process rather than provide information concerning loop makeup?

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[255] *UNE Remand Order* at ¶ 427.

[256] *Id.* at ¶ 430.

Parties' Positions

Rhythms opposes SWBT's proposal for a loop qualification process to be used in place of the provision of loop make-up information.[257] Rhythms argues that SWBT's pre-qualification process (red/green/yellow) is based on the acceptability of a loop to SWBT's own retail ADSL services, and may not apply to the services to be provided by CLECs. Rhythms seeks to determine for itself whether a particular loop is capable of supporting xDSL service.[258] Rhythms argues that SWBT should not be permitted to substitute its judgment for that of a CLEC regarding the xDSL loop characteristics.[259]

Covad reiterates its arguments made in DPL Issue Nos. 15 and 17. Covad argues that it should have instantaneous access to the information necessary to determine whether xDSL services can be provisioned across a loop. Covad argues that SWBT should only determine whether a spare pair is available for lease to the CLEC.[260]

SWBT states that its pre-qualification process is entirely optional, and need not be utilized by a CLEC.[261] SWBT also provides "loop qualification" or "loop makeup" information on a manual basis to CLECs upon request for an xDSL loop.[262] SWBT states that it does not know the design parameters of the CLEC service or equipment; therefore, SWBT cannot make a determination of required conditioning of the CLEC service.[263]

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[257] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 36 (Feb. 19, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 15-19 (Apr. 8, 1999); ACI Exhibit 7, Rebuttal Testimony of Jo Gentry at 2-5 (Apr. 8, 1999).

[258] ACI Exhibit 2, Direct Testimony of Jo Gentry at 10 (Feb. 19, 1999).

[259] *Id.*

[260] Covad Exhibit 43, Supplemental Direct Testimony of Sandee Turner at 3, 5 (May 24, 1999).

[261] SWBT Exhibit 28, Supplemental Rebuttal Testimony of George R. Phillips, Jr. at 4 (May 28, 1999).

[262] *Id.* at 3.

[263] SWBT Exhibit 26, Supplemental Rebuttal Testimony of William C. Deere at 12 (May 28, 1999).

Award

The Arbitrators find in DPL No. 15 that SWBT's pre-qualification and loop qualification systems as currently described are *not* a reasonable substitute for the provision of actual loop makeup information. To the extent that SWBT's retail operations or separate advanced services affiliate is able to access pre-qualification indicators such as the current red/green/yellow methodology, CLECs should have the same access. However, the indicators and reports obtained thus far from SWBT's pre-qualification and loop qualification programs are based on SWBT's ADSL service offering, and will be of only limited value to the Petitioners. The Arbitrators find that competitive parity can only be reached with respect to loops used to provide xDSL services if CLECs are provided with real-time access to actual loop makeup information that they can then use to provide their services to their customers.

The Arbitrators' finding is consistent with the *UNE Remand Order*. In that Order, the FCC found that :

> "an incumbent LEC should not be permitted to deny a requesting carrier access to loop qualification information for particular customers simply because the incumbent is not providing xDSL or other services from a particular end office. We also agree with commenters that an incumbent must provide access to the underlying loop information and may not filter or digest such information to provide only that information that is useful in the provision of a particular type of xDSL that the incumbent chooses to offer. For example, SBC provides ADSL service to its customers, which has a general limitation of use for loops less than 18,000 feet. In order to determine whether a particular loop is less than 18,000 feet, SBC has developed a database used by its retail representatives that indicates only whether the loop falls into a "green, yellow, or red" category. Under our nondiscrimination requirement, an incumbent LEC can not limit access to loop qualification information to such a "green, yellow, or red" indicator. Instead, the incumbent LEC must provide access to the underlying loop qualification information contained in its engineering records, plant records, and other back office systems so that requesting carriers can make their own judgments about whether those loops are suitable for the services the requesting carriers seek to offer. Otherwise, incumbent LECs would be able to discriminate against other xDSL technologies in favor of their own xDSL technology."[264]

[264] *UNE Remand Order* at ¶ 428.

19(a). Should SWBT be required to deploy a mechanized loop makeup information process for DSL capable loops?

Parties' Positions

Rhythms maintains that it must have access to electronic, automated systems pre-ordering system that allow rapid and efficient access to the technical make-up of a potential customer's loop within six months of the effective date of this arbitrated agreement.[265] Rhythms asserts that SWBT must be required to provide to CLECs access to the same mechanized loop makeup information, or any portion of loop makeup information that becomes mechanized, that SWBT provides to itself in connection with offering its own xDSL retail services.

Covad argues that SWBT maintains databases that contain all of the information necessary to determine whether a loop is capable of transmitting xDSL signals.[266] To achieve true parity, Covad contends, CLECs must have equal, instantaneous access to the same information.[267] Covad asserts that SWBT must provide mechanized access to the loop makeup information.

SWBT states its understanding that it is required to offer parity access to the OSS systems that exist for service ordering and pre-ordering. To the extent SWBT deploys new, mechanized systems that contain loop makeup information, SWBT agrees that it should, and intends to, make that system available to CLECs. SWBT's proposed modifications have been discussed in DPL Issue No. 17.

Award

As discussed in DPL Issue No. 15, the Arbitrators find that SWBT must provide real time, electronic access to all systems needed for efficient provision of advanced services such as xDSL. To the extent SWBT is technically able to access the following in its own operations,

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[265] ACI Exhibit 2, Direct Testimony of Jo Gentry at 10 (Feb. 19, 1999).

[266] Covad Exhibit 43, Supplemental Direct Testimony of Sandee Turner at 8 (May 24, 1999).

[267] Covad Exhibit 45, Supplemental Rebuttal Testimony of Dhruv Khanna at 4 - 5 (May 28, 1999).

SWBT will develop and deploy mechanized and integrated OSS that will permit real-time CLEC access through an electronic gateway to a database that contains the loop makeup information. SWBT should not be allowed to delay the provision of the mechanized loop qualification process for competitors to a date uncertain. The Arbitrators require SWBT to meet the implementation schedule in Section VIII of this Award.

19(b). Until SWBT deploys the mechanized loop makeup information process, what should the process be for a manual process?

Parties' Positions

Rhythms contends that the manual request process should consist of the CLEC submitting requests for loop make-up information via facsimile and SWBT returning the information in the same manner. According to Rhythms witness Ms. Gentry, SWBT currently provides loop make-up information for its own retail operations in three to five days.[268]

Covad maintains that SWBT should be required to develop a mechanized interface for loop makeup information, and does not provide evidence on the manual process.

SWBT states that the centers that handle tariffed ADSL service requirements are required to manually type ADSL service orders.[269] SWBT witness Mr. Deere indicates that when a CLEC requests qualification for an xDSL loop, SWBT manually performs the engineering work to determine the loop makeup and provides the information to the CLEC.[270]

Award

Until a real-time loop makeup database is operational, the Arbitrators find that SWBT shall provide CLECs with manually-derived loop makeup information upon request at no charge.

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[268] ACI Exhibit 2, Direct Testimony of Jo Gentry at 11 (Feb. 19, 1999).

[269] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 16 (April 8, 1999).

[270] SWBT Exhibit 26, Supplemental Rebuttal Testimony of William C. Deere at 12 (May 28, 1999).

Transmittals and responses between CLECs and SWBT should be by the quickest means practical; facsimile, telephone, or e-mail. As indicated in response to DPL Issue No. 15(a), if a CLEC chooses to employ SWBT's manual pre-qualification system in a central office that has not been inventoried, the interval for CLEC receiving the response should be no longer than 10 business days. If a CLEC elects to have SWBT provide actual loop makeup information through a manual process, then the interval should be established as 3 business days.

20(a). Should the CLEC be allowed to make the business decision as to the need for loop conditioning based on information provided by SWBT?

20(b). Should SWBT be allowed to make all determinations regarding loop conditioning for CLEC needs within its sole discretion?

Parties' Positions

Rhythms reasons that only the particular CLEC knows the parameters of the services it seeks to deploy, and therefore should be able to request the specific type of conditioning required for a particular loop.[271] Rhythms argues that SWBT has the opportunity to see the total outside plant inventory for retail services, thus allowing SWBT the opportunity to find spare or alternative loop facilities that may not need conditioning.[272] Rhythms believes that SWBT should not make business judgements regarding the technical capabilities of CLECs; the CLEC will be in the best position to make decisions regarding conditioning depending on the technology to be used.[273]

Covad asserts, based on the revised contract language proposed by SWBT, that SWBT appears to conceptually agree with this point. Covad maintains, however, that the contract language proposed by SWBT is not acceptable for other reasons. Covad points out that SWBT's

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[271] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 39-40 (Feb. 19, 1999); ACI Exhibit 2, Direct Testimony of Jo Gentry at 18 (Feb. 19, 1999).

[272] ACI Exhibit 2, Direct Testimony of Jo Gentry at 19 (Feb. 19, 1999).

[273] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 39-40 (Feb. 19, 1999).

own retail loop qualification flows automatically into the loop provisioning interval so that SWBT does not suffer the same delays as Covad.[274]

SWBT responds that it has committed to let CLECs make their own business decisions with regard to loop conditioning, consistent with the *Advanced Services Order*.[275] However, SWBT explains that if the CLEC does not request the conditioning suggested by SWBT, then SWBT will not guarantee the service, and performance measures should not apply to that individual xDSL loop.[276] If the CLEC requests SWBT to perform the suggested conditioning, SWBT asserts that it is entitled to cost recovery for the work performed.

Award

Parties reached agreement on this issue during the arbitration proceeding.[277] The Arbitrators agree with the Parties resolution that all conditioning shall be performed at the request of the CLEC.

21. Should SWBT be permitted to limit availability to loops over 17.5k ft only on an ICB basis?

Parties' Positions

Rhythms claims that CLECs can provision viable xDSL services over loops in excess of 17,500 feet and should be permitted to do so at their own service quality risk.[278] Rhythms' witness Geis argues that all loops should be available, regardless of length. Mr. Geis also testified that over 20% of Rhythms' xDSL customers are on loops in excess of 18,000 feet in length.[279] Rhythms testifies that there are generally no differences between analog loops less

[274] Tr. at 1955 (June 5, 1999).

[275] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 15 (April 8, 1999).

[276] *Id.* at 18.

[277] Covad's Post Hearing Brief at 5 (Aug. 17, 1999).

[278] ACI Exhibit 1, Direct Testimony of Eric H. Geis at (Feb. 19, 1999).

[279] *Id.* at 41.

than or in excess of 17,500 feet in length.[280] Rhythms contends that it is unreasonable to require a competitor to await lengthy ICB (individual case basis) provisioning and pricing decisions from SWBT.[281]

Covad affirms that it offers xDSL services, including IDSL that are provisioned over loops longer than 17,500 feet in length. Covad argues that SWBT should fill xDSL loop orders regardless of loop length and then allow Covad to determine what services can be provided across the loop consistent with other provisions of the Interconnection Agreement.[282]

SWBT's initial proposal was to limit the availability of loops in excess of 17,500 feet in length only on an ICB basis. However, subsequent to its initial filing, SWBT revised its proposal to establish a separate price for each additional work operation required to condition a loop beyond 17,500 feet in length.[283] SWBT does not propose limiting the provision of xDSL loops over 17,500 feet in length.[284]

Award

SWBT states that it will allow CLECs to order loops over 17,500 feet in length without individual case basis (ICB) provisioning and pricing.[285] The Arbitrators find that SWBT should not be permitted to limit availability of xDSL loops in excess of 17,500 feet in length to an ICB basis. When questioned during the hearing, SWBT did not provide a cost basis for choosing 17,500 feet for a cutoff.[286] SWBT witness Deere explained that with some technologies, loops

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[280] Tr. at 1397 (June 4, 1999).

[281] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 41 (Feb. 19, 1999); ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 21 (April 8, 1999).

[282] Covad Exhibit 43, Supplemental Direct Testimony of Sandee Turner at 5-6 (May 24, 1999).

[283] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 11-12 (April 8, 1999).

[284] *Id.*

[285] SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at 11 (April 8, 1999).

[286] *Id.* at 1241.

require repeaters after reaching 18,000 feet in length; in his words, "that's why the distance was kept below that."[287] The Arbitrators note that the Parties agree that "...17.5 is not a magic cutoff where the cost characteristics become radically different...."[288] Loop rates and conditioning charges are addressed in Section VI of this Award.

22. What is the appropriate provisioning interval for 2-Wire xDSL capable loops?

Parties' Positions

Rhythms supports a 7-day provisioning interval for a 2-Wire xDSL loop, or the analogous level at parity with retail xDSL services offered by SWBT, whichever is less.[289]

Covad points out that Pacific Bell, SWBT's affiliate, agreed to provide xDSL loops to Covad within 7 days, if no conditioning is required; within 10 days if conditioning is required; and within 15 days if there are no facilities. Covad argues that SWBT should be held to the same standards. Covad maintains that longer intervals will give SWBT an unfair competitive advantage by allowing SWBT to provide actual xDSL services to its customers before the CLECs can.[290]

SWBT's proposed contract language indicates that the provisioning and installation interval for xDSL loops that do not require conditioning is 5 to 7 business days after the loop qualification process is complete. The specific contract language proposed by SWBT is as follows:

> A. The provisioning and installation interval for an ADSL, 2-Wire or 4-Wire MS Capable Loop or other DSL-Capable loops that are materially the same, as defined above, where no conditioning is requested, will be 5-7 business days after the Loop Qualification process is complete, or the provisioning and installation interval

[287] Tr. at 1243 (June 4, 1999).

[288] *Id.* at 1243, 1403.

[289] ACI Exhibit 2, Direct Testimony of Jo Gentry at 19 – 20 (Feb. 19, 1999).

[290] Covad Exhibit 1, Direct Testimony of Charles A. Haas at 10 (Feb. 19, 1999).

applicable to SWBT's tariffed DSL-based services, whichever is less. The provisioning and installation intervals for the ADSL, 2-Wire or 4-Wire MS Capable Loops where conditioning is requested will be 15 business days for loops up to 17,500 feet, or the provisioning and installation interval applicable to SWBT's tariffed DSL-based services where conditioning is required, whichever is less. An ADSL, 2-Wire or 4-Wire MS Capable Loop in excess of 17,500 feet where conditioning is requested will have a provisioning and installation interval agreed upon by the Parties for each instance of special construction. VLS Capable Loops will be provisioned under the terms of the 2-Wire Digital Loop as described in Appendix UNE of this Agreement.

B. Subsequent to the initial order for an ADSL, 2-Wire or 4-Wire MS Capable Loop or other DSL-Capable loops that are materially the same, as defined above, additional conditioning may be requested on such loop at the rates set forth below and the applicable service order charges will apply; provided, however, when requests to add or modify conditioning are received within 24 hours of the initial order for an ADSL, 2-Wire or 4-Wire MS Capable Loop, no service order charges shall be assessed, but may be due date adjusted as necessary. The provisioning interval for additional requests for conditioning pursuant to this subsection will be the same as set forth above.

SWBT maintains that this schedule is completely at parity with what SWBT is providing for its retail xDSL operations.[291]

Award

The Arbitrators find that the provisioning and installation interval for a xDSL loop, where no conditioning is requested, on orders for 1-20 loops per order or per end-user location, will be 3 - 5 business days, or the provisioning and installation interval applicable to SWBT's tariffed xDSL services, or its affiliate's, whichever is less. The provisioning and installation intervals for xDSL loops where conditioning is requested, on orders for 1-20 loops per order or per end-user customer location, will be 10 business days, or the provisioning and installation interval applicable to SWBT's tariffed xDSL services or its affiliate's xDSL services where conditioning is required, whichever is less. Orders for more than 20 loops per order or per end-user location, where no conditioning is requested, will have a provisioning and installation interval of 15 business days, or as agreed upon by the Parties. Orders for more than 20 loops per order which

[291] SWBT Exhibit 1, Direct Testimony of Michael C. Auinbauh at 15-16 (Feb. 19, 1999).

require conditioning will have a provisioning and installation interval agreed by the Parties in each instance. The Arbitrators find that the provisioning intervals are applicable to every xDSL loop regardless of the loop length.

V. Collocation [292]

DPL Issue Nos. 33-34, 36

33. Should SWBT be required to offer cageless collocation?

Parties reached agreement on this issue in the arbitration proceedings on April 15, 1999.[293]

33(a). Should SWBT be required to provide collocation at a remote terminal site?

Parties reached agreement on this issue in the arbitration proceedings on April 15, 1999.[294]

33(b). Should the interconnection agreement include new collocation provisions that reflect the requirements of the FCC's March 31, 1999 First Order in CC Docket No. 97-147?

Parties reached agreement on this issue in the arbitration proceedings on April 15, 1999.[295]

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[292] The Arbitrators note that subsequent to the Parties' agreement, the Commission approved the revised physical and virtual collocation tariffs of SWBT. These revised tariffs provide the rates, terms and conditions for collocation for providers using Attachment 25 – DSL of the T2A.

[293] Tr. at 467-541 (April 15, 1999).

[294] Tr. at 467-541 (April 15, 1999).

[295] Tr. at 467-541 (April 15, 1999).

34. What is the appropriate provisioning interval for cageless collocation?

Parties reached agreement on this issue in the arbitration proceedings on April 15, 1999.[296]

36. Should SWBT be required to permit collocation of ATM cross-connect equipment?

Parties reached agreement on this issue in the arbitration proceedings on April 15, 1999.[297]

VI. Costs, Rates and Prices

DPL Issue Nos. 26-32

26. Should rates associated with xDSL capable loops be TELRIC-based?

Parties' Positions

Rhythms asserts that the prices for UNEs should be set equal to TELRIC.[298] Rhythms believes that three features of TELRIC are particularly significant in this arbitration:[299] TELRIC is "based on the use of the most efficient telecommunications technology currently available;" a TELRIC study may not consider embedded costs; and unit costs developed consistently with TELRIC must be "divided by a reasonable projection of the sum total number of units of the

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[296] Tr. at 467-541 (April 15, 1999); Provisions are adopted and should be incorporated into the resulting Interconnection Agreements as contained in SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at Schedule 1 (April 8, 1999).

[297] Tr. at 467-541 (April 15, 1999); Provisions are adopted and should be incorporated into the resulting Interconnection Agreements as contained in SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at Schedule 1 (April 8, 1999).

[298] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 16 (Feb. 19, 1999).

[299] ACI Post Hearing Brief at 100 (Aug. 17, 1999).

element." Rhythms argues that SWBT's cost estimates have violated each of these requirements.[300]

Covad argues that the Commission and the FCC require that SWBT set its prices according to TELRIC principles. Covad believes SWBT's proposed prices do not comply with TELRIC requirements. Covad suggests that SWBT designed its cost studies to support the prices it wants to charge new entrants, rather than deriving its prices from valid cost analysis or using the TELRIC methodology.[301]

SWBT states that all proposed rates are based on TELRIC methodology. SWBT asserts that the cost studies for xDSL loops were the subject of the Mega-Arbitration in which the Commission adopted a TELRIC methodology. SWBT's proposed rates for the xDSL loops are those ordered for UNE loops in the Mega-Arbitration.[302]

Award

The Arbitrators find that, as previously decided by the Commission in other proceedings, all rates associated with UNEs, including xDSL loops, should be TELRIC-based.[303] This finding is consistent with FCC precedent, including the *Local Competition Order*, and FCC UNE Pricing Rules 47 C.F.R. §§ 51.501-515.[304]

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[300] ACI Post Hearing Brief at 101 (Aug. 17, 1999).

[301] Covad Post Hearing Brief at 52-53 (Aug. 17, 1999); *Local Competition Order* at ¶29; Mega Arbitration Award, November 7, 1996 at 25 and December 19, 1997 at 4. The Mega Arbitration consists of Docket Nos. 16189, 16196, 16226, 16285, 16290, 16455, 17065, 17579, 17587, and 17781; ACI Exhibit 5, Direct Testimony of Terry L. Murray at 16 (Feb. 19, 1999); Tr. at 1216-1217 (June 5, 1999).

[302] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 4 (April 8, 1999).

[303] Mega-Arbitration Award, Nov. 7, 1996 at 25 and Dec. 19, 1997 at 4. (The rates for UNEs on Appendix B are based on the total long run incremental cost (TELRIC)).

[304] *Local Competition Order* at 682; Mega-Arbitration Award, Nov. 7, 1996 at 25 and Dec. 19, 1997 at 4.

27. What are the appropriate TELRIC-based xDSL rates?

Parties' Positions

Rhythms argues that SWBT's proposed rates for xDSL loops are inappropriately high. Rhythms explains that SWBT's proposed rates are higher than the cost based prices, in a absolute sense and relative to the adopted costs for basic analog loops, for any comparable element either proposed by another incumbent local exchange carrier or adopted by another Commission. Rhythms explains that the range of loop rates proposed by SWBT is much larger than in other states. For example, SWBT's proposed digital loop rate is 153% higher than SWBT's proposed analog loop rate. However, Rhythms continues, other states experience increments of 0% to 40%.[305]

Rhythms is particularly concerned with SWBT's proposed rate for digital loops and argues that the incorrect price could result in a price squeeze.[306] Rhythms urges the adoption of a proxy cost for the two-wire digital xDSL loop. Rhythms suggests an interim rate of $20.16. Rhythms contends that the proxy cost should remain in effect until SWBT provides a well documented cost study for two-wire digital xDSL loops, and all affected Parties have had an opportunity to review and comment on the costs.[307]

In regard to analog loops, Rhythms argues that the proxy cost should be the Commission-approved TELRIC-based cost result for the nearest unbundled loop type. Rhythms explains that this interim price would apply until such time as Parties have litigated a specific cost study for xDSL loops.[308]

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[305] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 49-52 (Feb. 19, 1999).

[306] ACI Exhibit 11, Rebuttal Testimony of Terry L. Murray at 11-14 (April 8, 1999); ACI Exhibit 11a, Rebuttal Testimony of Terry L. Murray at 11-17 (April 8, 1999).

[307] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 53 (Feb. 19, 1999); ACI Post Hearing Brief at 117-119 (Aug. 17, 1999).

[308] DPL at 62 (May 28, 1999).

Covad agrees with Rhythms' reasoning.[309] Covad states that SWBT's proposed rates for xDSL loops less than 18,000 feet in length are within an acceptable range. However, Covad argues, SWBT's proposed digital xDSL loop rates are too high. Covad argues that the digital loop rate would prevent the xDSL industry from reaching the industry "price point" of approximately $40-50 per month.[310] Covad concurs with Rhythms' proposal of adopting an interim rate of $20.16 for the two-wire digital xDSL loop.[311]

SWBT proposes xDSL loop rates based on the rates approved in the Mega-Arbitration. SWBT argues that Rhythms and Covad have not contested the recurring loop rates, having stated in the DPL that "until such time as Parties have litigated a specific cost study, the Commission approved TELRIC-based cost result for the nearest unbundled loop type should be used as a proxy."[312]

Award

A cost study to support analog and digital xDSL loop rates was not provided in this proceeding. Instead, SWBT proposed xDSL loop rates that were identical to the UNE loop rates adopted in the Mega-Arbitration. The Arbitrators find that reliance on the Mega-Arbitration UNE loop rates is not appropriate, particularly for digital xDSL loops. As a result, the Arbitrators order SWBT to file a new TELRIC-based cost study for analog and digital xDSL loops. The study should be based on TELRIC principles, designed to create an efficient xDSL network, and compute de-averaged xDSL loop rates. The geographic de-averaging should be consistent with the de-averaging of loop rates in the Mega-Arbitration. The cost study should not distinguish between loop lengths; all xDSL loops should be the same rate regardless of loop length. The Arbitrators invite Rhythms and Covad to file their own cost studies. Until new cost

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[309] *Id.*

[310] Covad Exhibit 1, Direct Testimony of Charles A. Haas at 13 (Feb. 19, 1999).

[311] Covad Post Hearing Brief at 59 (Aug. 17, 1999); ACI Exhibit 5, Direct Testimony of Terry L. Murray at 50-52 (Feb. 19, 1999).

[312] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 4 (April 8, 1999); SWBT Post Hearing Brief at 66 (Aug. 17, 1999).

studies are approved by the Commission, the Arbitrators find that the interim xDSL loop rates, as described below, will apply.[313]

The underlying loop facility used for xDSL services is equivalent to an analog or digital loop. With regard to analog loops, the Arbitrators find the de-averaged rates adopted for unbundled analog loops in the Mega-Arbitration are appropriate on an interim basis. The Arbitrators find the de-averaged rates to be appropriate, rather than statewide average rates for unbundled loops, because the Commission has implemented the intrastate USF mechanism.[314]

The Arbitrators do not accept the digital loop rates established in the Mega-Arbitration as interim rates for digital xDSL loop rates. It is unclear to the Arbitrators whether the digital loop rates established in the Mega-Arbitration include conditioning costs.[315] This uncertainty could result in over recovery of costs by SWBT, since separate conditioning charges apply to xDSL loops on which the CLEC has requested conditioning.[316] Because the Arbitrators cannot verify whether, and to what extent, the conditioning charges are included in the digital loop rates established by the Mega-Arbitration, the Arbitrators adopt the interim rate proposed by Rhythms and Covad for a 2-wire digital xDSL loop. The Arbitrators double the proposed interim rate for a 2-wire digital loop in order to compute the interim rate for a 4-wire digital xDSL loop.

The Arbitrators find that the appropriate interim rates for analog and digital xDSL loops are the following:

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[313] *See* Implementation Schedule in Section VIII of this Award.

[314] Section 1.5 of Appendix Pricing – UNE to Attachment 6 of the AT&T/SWBT interconnection agreement states:

> Where a statewide average appears on Appendix Pricing UNE Schedule of Prices, that price will prevail until the Commission's implementation of the intrastate USF mechanism scheduled for Spring 1998 or as specified in such other further order of the Commission. Thereafter, pricing will be by Zone where applicable (loops) and by Level, where applicable (ports) as shown on Appendix Pricing UNE - Schedule of Prices.

See Docket No. 18515, Compliance Proceeding for Implementation of the Texas High Cost Universal Service Plan, for implementation of the Texas Universal Service Fund (TUSF).

[315] Mega Arbitration Award, Appendix A, UNE Costing and Pricing DPL Issues Award Table, Issue 148 (Dec. 19, 1997).

[316] *See* DPL at 65 (May 28, 1999).

	Recurring	Nonrecurring	
		Initial	Additional
2-Wire Analog Loop			
Zone 1	$18.98	$15.03	$6.22
Zone 2	$13.65	$15.03	$6.22
Zone 3	$12.14	$15.03	$6.22
2-Wire Digital Loop			
Zone 1	$20.16	$15.03	$6.22
Zone 2	$20.16	$15.03	$6.22
Zone 3	$20.16	$15.03	$6.22
4-Wire Analog Loop			
Zone 1	$36.06	$15.03	$6.22
Zone 2	$21.52	$15.03	$6.22
Zone 3	$15.86	$15.03	$6.22
4-Wire Digital Loop			
Zone 1	$40.32	$15.03	$6.22
Zone 2	$40.32	$15.03	$6.22
Zone 3	$40.32	$15.03	$6.22

One of the conditions in the SBC/Ameritech merger is that SBC/Ameritech will develop and deploy common electronic OSS interfaces across all 13 SBC/Ameritech states to be used by any telecommunications carrier, including the merged firm's advanced services affiliates, for pre-ordering and ordering facilities used to provide advanced services.[317] The FCC found that, "until SBC/Ameritech has developed and deployed the advanced services OSS enhancements, interfaces, and business requirements described above, and the SBC/Ameritech separate advanced services affiliate uses the EDI interface for pre-ordering and ordering a substantial majority of the facilities it uses to provide advanced services, SBC/Ameritech will offer

[317] *SBC/Ameritech Merger Order* at ¶ 371.

telecommunications carriers a 25-percent discount from the recurring and nonrecurring charges for unbundled loops used in the provision of advanced services. This discount is intended to compensate other carriers for the unenhanced OSS and to provide SBC/Ameritech with an incentive to improve the systems and processes as quickly as possible."[318] The Arbitrators find that this same discount shall apply to this Award.

Until such time as permanent xDSL loop rates are approved, SWBT shall offer Petitioners xDSL loops at the interim prices above. The interim xDSL loops rates are subject to refund/surcharge upon approval of permanent xDSL loop rates, back to the date the Interconnection Agreements resulting from this Award become effective.

28(a). Is it appropriate to charge a rate for shielded cross connect that is higher than the rate for unshielded cross connect?

28(b). If so, what are the appropriate rates for xDSL Shielded Cross Connect to Collocation?

Parties' Positions

Rhythms does not anticipate utilizing shielded cross connects.[319] Rhythms asserts that shielded cross connects are not necessary when provisioning xDSL services,[320] and further argues that SWBT's proposed charge for shielded cross-connects should be rejected. Rhythms notes that SWBT's proposed rates for shielded cross connects are significantly higher than those for basic voice-grade cross connects. Rhythms contends that the higher rates represent a barrier to entry.[321] Rhythms believes that SWBT cannot charge differently for the two types of cross connects.[322] Rhythms argues that the difference in the shielded cable cost and labor involved, if

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[318] *Id.* at ¶ 372 and Appendix C at ¶ 18.

[319] Tr. at 1320-1321 (June 4, 1999).

[320] *See* ACI Exhibit 5, Direct Testimony of Terry L. Murray (Feb. 19, 1999); ACI Exhibit 3, Direct Testimony of Rand Kennedy (Feb. 19, 1999); ACI Exhibit 4, Direct Testimony of Phil Kyees (Feb. 19, 1999).

[321] ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 27 (April 4, 1999).

[322] ACI Exhibit 6, Rebuttal Testimony of Eric Geis at 27 (April 4, 1999).

any, is minimal.[323] Therefore, Rhythms urges the Arbitrators to find that the costs and rates for shielded and basic voice-grade cross connects are identical.[324] Accordingly, Rhythms proposes that the appropriate rates for shielded cross connects are the rates adopted for voice-grade cross connects in the Mega-Arbitration;[325] $1.24 recurring charge, $4.72 non-recurring charge.[326]

Covad does not anticipate utilizing shielded cross connects. [327] Covad does not believe that shielded cross connects are necessary when provisioning xDSL services.[328] Covad argues that it should not be required to pay the additional cost for shielded cross connects. Instead, Covad believes that SWBT should bear all additional costs for shielded cabling.[329] In the alternative, Covad argues that SWBT's proposed rates for shielded cross connects are unreasonable and should be modified. [330]

SWBT does not require CLECs to utilize shielded cross connects.[331] However, SWBT testifies that a higher rate for shielded cross connects is appropriate in order to compensate SWBT for the additional material and labor costs involved in installing and testing the circuit. SWBT asserts that, unlike a non-shielded cross connect, a shielded cross connect requires a manual test process, must be grounded, and utilizes a dedicated shielded cable. SWBT cites these three differences when justifying its proposed higher cost for shielded cross connects.[332]

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[323] Tr. at 1417-1420 (June 4, 1999).

[324] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 43-44 (Feb. 19, 1999).

[325] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 43 (Feb. 19, 1999).

[326] *Id.* at 44.

[327] Tr. at 1320-1321 (June 4, 1999).

[328] Covad Exhibit 4, Direct Testimony of Anjali Joshi at 16-18 (Feb. 19, 1999).

[329] *Id.* at 18.

[330] *Id.*

[331] DPL at 64 (May 28, 1999).

[332] Tr. at 1324-1326, 1417-1420 (June 4, 1999).

SWBT provided a shielded cross connect cost study.[333] SWBT proposes rates for shielded cross connects: $0.60 recurring charge; $57.75 non-recurring charge.[334] SWBT states that its proposed rates are based on pricing principles established by the Commission in the Second Mega-Arbitration[335] and are not significantly different than non-shielded varieties.[336]

Award

The Arbitrators first note that SWBT has stated that it does not require CLECs to use shielded cross connects when provisioning xDSL services. The Arbitrators agree that SWBT cannot require CLECs to use shielded cross connects when provisioning xDSL services. However, the Arbitrators find that should a CLEC request shielded cross connects, SWBT should be compensated, using TELRIC principles, for the costs associated with provisioning shielded cross connects. The *UNE Remand Order* requires the costs for cross connects to be recovered in accordance with the FCC rules governing the costs of interconnection and unbundling.[337]

The Arbitrators find that in addition to the expenses associated with a non-shielded cross connect, the record supports the additional expenses associated with the material cost of the shielded cable and the labor associated with grounding the shielded cross connect. In order to establish rates for shielded cross connects, the Arbitrators modify the recurring and nonrecurring costs associated with non-shielded cross connects adopted in the Mega-Arbitration. The Arbitrators note that the Mega-Arbitration rates include testing of the non-shielded cross connects. [338] Therefore, the Arbitrators find that since both shielded and non-shielded cross-

[333] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 4 (April 8, 1999).

[334] SWBT Exhibit 4, Direct Testimony of Barry A. Moore at Schedule 4 (Feb. 19, 1999).

[335] The Second Mega-Arbitration consists of the December 1997 Award in Docket Nos. 16189, 16196, 16226, 16285, 16290, 16455, 17065, 17579, 17587, and 17781.

[336] SWBT Exhibit 2, Direct Testimony of William C. Deere at 22 (Feb. 19, 1999). Rates for (non-shielded) cross connects were established in the Mega-Arbitration.

[337] *UNE Remand Order* at ¶ 178.

[338] The Mega-Arbitration adopted a recurring rate of $1.24 and a non-recurring rate of $4.72 for basic (non-shielded) analog and digital two wire cross connects. The Mega-Arbitration adopted a recurring rate of $2.48

connects must be tested, additional compensation for testing of shielded cross connects is not warranted beyond that already provided in the non-shielded cross connect rates established in the Mega-Arbitration.

To establish the rates for shielded cross connects, the Arbitrators incorporate the additional material costs associated with shielded cross connects into the non-shielded cross connect recurring rate. The Arbitrators find the record supports an additional expense of $35.00 per one hundred feet of 100 pair shielded cable.[339] Therefore, the Arbitrators add $0.35 per shielded 2-wire cross connect and $0.70 per shielded 4-wire cross connect to the non-shielded cross connect recurring rate. In order to calculate the nonrecurring rate for shielded cross connects the Arbitrators incorporate the additional labor expenses into the non-shielded cross connect nonrecurring rate. *See* Attachment B, Paragraph C. After the appropriate recurring and nonrecurring rates for shielded cross connects were determined, a 13.1% Common Cost Allocation Factor was applied.[340] Therefore, the Arbitrators find the following rates to adequately compensate for all costs associated with the provisioning of shielded cross connects.[341]

Shielded Cross Connects

	Recurring	Nonrecurring
2-Wire Analog Shielded Cross Connect	$1.64	$17.29
4-Wire Analog Shielded Cross Connect	$3.28	$42.13
2-Wire Digital Shielded Cross Connect	$1.64	$17.29
4-Wire Digital Shielded Cross Connect	$7.46	$51.62

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and a non-recurring rate of $29.56 for basic (non-shielded) analog four wire cross connects and a recurring rate of $6.67 and a non-recurring rate of $39.05 for basic (non shielded) digital four wire cross connects. *See* Mega-Arbitration Award at Appendix B (Dec. 19, 1997).

[339] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 44 (Feb. 19, 1999); ACI Exhibit 5a, Direct Testimony of Terry L. Murray at 45-46 (Feb. 19, 1999).

[340] Because the common cost allocation factor is already included in the rates for (non-shielded) cross connects, the Arbitrators *only* apply the common cost allocation factor to the additional expenses associated with shielded cross connects.

[341] *See* Appendix C for revised cost study.

29. Should SWBT be allowed to charge additional ADSL "Conditioning" charges?

Parties' Positions

Rhythms contends that SWBT should not be allowed to charge additional xDSL conditioning charges.[342] However, Rhythms argues that should the Arbitrators find that conditioning charges are appropriate, SWBT's xDSL conditioning cost studies should be modified to reflect reasonable and efficient costs for xDSL loop conditioning.[343] Rhythms argues that SWBT's study of xDSL conditioning costs is inconsistent with the TELRIC methodology[344] and the recurring cost studies that were adopted in the Mega-Arbitration. Rhythms explains that assuming, as SWBT did, a different network for purposes of calculating recurring and non-recurring costs can result in double counting of costs.[345] More specifically, Rhythms argues that SWBT proposed cost study is incorrect because it does not propose unit costs, calculates costs using inefficient practices, utilizes unsupported task times, and inappropriately bundles the costs for removing and re-installing bridged tap.[346] Rhythms provides adjusted proposed conditioning charges that correct the above concerns with SWBT's proposed cost study.[347]

Covad suggests that SWBT's proposed conditioning charges are nothing more than an anticompetitive barrier to Covad's entry into the xDSL market. Covad concurs with Rhythms

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[342] Rhythms only uses the term "conditioning charges" to simplify the discussion. However, Rhythms feels the term may be misleading as the term has traditionally been used in telecommunications to refer to situations in which equipment must be *added* to a circuit. In contrast, DSL-capable loops require that unnecessary equipment be *removed* from the circuit. *See* ACI Exhibit 5, Direct Testimony of Terry L. Murray at 19 (Feb. 19, 1999).

[343] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 23-36 (Feb. 19, 1999); ACI Exhibit 5a, Direct Testimony of Terry L. Murray at 23-36 (Feb. 19, 1999).

[344] "The assumption of a network in which repeaters, bridged taps, and load coils must be removed from certain loops to make those loops DSL capable is fundamentally incompatible with the least-cost, most efficient technology assumptions of a forward looking economic cost study." *See* ACI Exhibit 5, Direct Testimony of Terry L. Murray at 20-21 (Feb. 19, 1999).

[345] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 20 (Feb. 19, 1999).

[346] *Id.* at 24 - 25; ACI Exhibit 5, Direct Testimony of Terry L. Murray at 24-25 (Feb. 19, 1999).

[347] ACI Post Hearing Brief at 109 (Aug. 17, 1999); ACI Exhibit 5, Direct Testimony of Terry L. Murray at 30-32 (Feb. 19, 1999).

and argues that SWBT's proposed conditioning charges would only add to the customers' costs.[348]

SWBT argues that the need to compensate it for loop conditioning was recognized by the *Local Competition Order*.[349] Nevertheless, SWBT only proposes to charge conditioning charges on xDSL loops greater than 12,000 feet.[350] SWBT concedes that over time, load coils, repeaters, and bridged tap will be slowly migrated out of SWBT's network.[351] Therefore, most loop conditioning will not be necessary in the future. Nevertheless, SWBT explains that some loops in today's network will require conditioning in order to provision xDSL services. SWBT explains that the conditioning activities will be performed by SWBT at the direct request of a CLEC. Therefore, SWBT contends, it should be fairly compensated for the work that it would otherwise not have performed. SWBT supplies a TELRIC-based xDSL conditioning cost study that calculates SWBT's proposed conditioning charges.[352]

Award

The Arbitrators find that SWBT should be fairly compensated for the work it performs when conditioning analog and digital xDSL loops at the request of a CLEC. The Arbitrators also find that SWBT's conditioning charges should be based on forward looking cost principles.

The Arbitrators find that on a forward-looking basis, xDSL loops less than 18,000 feet in length should rarely require conditioning. The Arbitrators believe there is sufficient evidence to support the conclusion that the retention or existence of repeaters or load coils on loops that are less than 18,000 feet in length is not consistent with the TELRIC principles as applied to develop a forward-looking network design. SWBT testifies that the presence of load coils and repeaters

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[348] Covad Exhibit 1, Direct Testimony of Charles A. Haas at 14 (Feb. 19, 1999); Covad Post Hearing Brief, at 57-58 (Aug. 17, 1999).

[349] *Local Competition Order* at ¶ 382.

[350] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 7-8 (April 8, 1999).

[351] *Id.* at 6.

[352] *Id.* at 4, 6.

will be relatively rare. SWBT asserts that in most cases repeaters will not be on the loop unless ISDN is being provisioned.[353] Moreover, the forward looking cost studies utilized in the Mega-Arbitration did not assume the existence of load coils or repeaters on loops less than 18,000 feet in length; instead loops in excess of 12,000 feet in length were fiber.[354] In addition, SWBT's revised resistance design rules for loop plant only place disturbers on loops at 18,000 feet in length and beyond.[355] The Arbitrators find that on a forward-looking basis, load coils or repeaters should not be present on loops less than 18,000 feet in length. The Arbitrators find that the record suggests that the existence of bridged tap may be included in a forward looking network design.[356] Therefore, the Arbitrators believe that conditioning charges for the removal of repeaters and load coils should only apply to xDSL loops at or beyond 18,000 feet in length. This is 6,000 feet greater than SWBT's proposal to only charge conditioning charges on xDSL loops greater than 12,000 feet in length.[357]

However, the Arbitrators recognize that the FCC has recently found that the incumbent, in this instance SWBT, should be able to charge for conditioning on loops at or less than 18,000 feet in length.[358] Therefore, the Arbitrators find that appropriate TELRIC-based conditioning

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[353] Tr. at 1328 (June 4, 1999).

[354] *Id.* at 1222-1225.

[355] *Id.* at 1229-1230.

[356] Tr. at 1237-1238, 1303-1305, 1328-1329 (June 4, 1999).

[357] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 7-8 (April 8, 1999).

[358] *UNE Remand Order* at ¶¶ 192-194. The FCC states in paragraphs 193 and 194:

> We agree that networks built today normally should not require voice-transmission enhancing devices on loops of 18,000 feet or shorter. Nevertheless, the devices are sometimes present on such loops, and the incumbent LEC may incur costs in removing them. Thus, under our rules, the incumbent should be able to charge for conditioning such loops.
>
> We recognize, however, that the charges incumbent LECs impose to condition loops represent sunk costs to the competitive LEC, and that these costs may constitute a barrier to offering xDSL services. We also recognize that incumbent LECs may have an incentive to inflate the charge for line conditioning by including additional common and overhead costs, as well as profits. We defer to the states to ensure that the costs incumbents impose on competitors for line conditioning are in compliance with our pricing rules for nonrecurring costs.
> (Footnotes omitted.)

charges for the removal of repeaters, bridged taps, and/or load coils shall apply to loops of any length greater than 12,000 feet.

SWBT's proposed conditioning cost study only considers the costs associated with conditioning loops less than 17,500 feet in length. SWBT did not supply any cost information with respect to conditioning loops in excess of 17,500 feet in length.[359] When questioned during the hearing, SWBT did not provide a cost basis for choosing 17,500 feet for a cutoff.[360] However, the Parties agree that "...17.5 is not a magic cutoff where the cost characteristics become radically different...."[361] Rhythms asserts that there are generally no differences between loops less than or in excess of 17,500 feet in length.[362] SWBT witness Deere explained that with some technologies, loops require repeaters after reaching 18,000 feet in length; in his words, "that's why the distance was kept below that."[363]

The Arbitrators acknowledge that the Parties testified that the cost studies utilized in the Mega-Arbitration were completed according to TELRIC principles and designed to create an efficient POTS network.[364] Therefore, the designed network did not normally include load coils or repeaters on loops less than 18,000 feet in length.[365] However, this network design is contrary to the network modeled in SWBT's proposed xDSL non-recurring cost studies for conditioning, which does assume the existence of disturbers on loops less than 18,000 feet in length. The Arbitrators find that the network design inconsistencies in the recurring and non-recurring cost studies do not result in correct xDSL costs and rates and consequently render the proposed charges invalid. Therefore, the Arbitrators order SWBT to file new TELRIC-based cost studies for conditioning of analog and digital xDSL loops at or in excess of 18,000 feet in length. The

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[359] Tr. at 1226 (June 4, 1999).

[360] *Id.* at 1241.

[361] *Id.* at 1243, 1403.

[362] ACI Exhibit 1, Direct Testimony of Eric H. Geis at 41 (Feb. 19, 1999).

[363] Tr. at 1243 (June 4, 1999).

[364] *Id.* at 1222.

[365] *Id.* at 1237, 1303, 1305.

Arbitrators also order SWBT to file a new TELRIC-based cost study for the removal of bridged tap, load coils, and repeaters on xDSL loops greater than 12,000 feet in length but less than 18,000 feet in length.

The Arbitrators order that both cost studies be based on the same network used to calculate xDSL loop rates,[366] incorporate the actual percentage of loops that require conditioning based on actual field experience, utilize efficient conditioning, and include a future discount. The Arbitrators find that evidence in the record suggests that over time, load coils, repeaters, and bridged tap will be migrated out of SWBT's network.[367] Therefore, most loop conditioning will not be necessary in the future. The Arbitrators also order SWBT to take into account any current plans and work in progress to rearchitect its network to push fiber deeper into the network structure, thereby reducing the likelihood that accreted devices, *e.g.*, load coils, would be present on loops. The Arbitrators order that this reduction in the likelihood of conditioning be reflected in the cost studies through a future discount. The Arbitrators also order that the modifications adopted below be addressed in the new cost studies. The Arbitrators invite Rhythms and Covad to file their own cost studies. Until new cost studies are approved by the Commission, the Arbitrators' interim conditioning rates shall apply.[368]

The Arbitrators adopt SWBT's proposed conditioning charges, with modification, on an interim basis. Specifically, the Arbitrators have removed the bridged tap re-installation from the cost of removing a bridged tap. The Arbitrators find, based upon the evidence in the record, that the CLEC should not be considered the appropriate "cost causer" for re-installing bridged taps.[369] *See* Attachment B, Paragraph D. The interim rates are based on TELRIC pricing principles. After the appropriate rate for each conditioning activity was determined, a 13.1% Common Cost Allocation Factor was applied.

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[366] *See* DPL at 62 (May 28, 1999).

[367] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 6 (April 8, 1999).

[368] *See* Implementation Schedule, Section VIII of this Award.

[369] Tr. at 1347-1349 (June 4, 1999); SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 6 (April 8, 1999).

The Arbitrators also modify the cost studies to reflect the costs of efficient conditioning. SWBT states that it does not intend to condition more loops than the CLEC requests.[370] For example, if a CLEC requests conditioning on one loop in a binder group of 50 pairs, SWBT would dispatch a technician to condition only the single loop. However, SWBT's more efficient internal practice is to condition at least 50 loops at a time when it is necessary to dispatch a technician.[371] Therefore, the Arbitrators modify SWBT's xDSL conditioning cost study to reflect the more efficient practice of conditioning several loops, or entire binder groups, when a technician is dispatched and the cable splice is entered. Because of the smaller sized binder groups used in longer cabling, the Arbitrators find an appropriate unit size for the purpose of calculating conditioning charges for loops at or in excess of 18,000 feet in length to be 25. The Arbitrators use a unit size of 50 when calculating the charges for removing load coils, bridged taps, and/or repeaters on xDSL loops greater than 12,000 feet in length but less than 18,000 feet in length.[372]

Furthermore, the Arbitrators clarify that the additional charges for any mixed conditioning shall be the additional charge for the specific disturber unless an additional incidence of both disturbers exists on the loop. For example, when removing both bridged tap and load coils from a loop, the initial charge of $59.35 would apply. The $53.72 additional charge would only apply if the loop also necessitated the removal of additional bridged taps and additional load coils. If the loop *only* required the removal of additional bridged taps, the $18.81 additional bridged tap charge would then apply.

The Arbitrators stress that conditioning of xDSL loops shall only be performed at the request of the CLEC. The Arbitrators note for the record that SWBT could not testify that it has charged any SWBT retail ADSL customers the $900 conditioning charge listed in its federal

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[370] SWBT Exhibit 8, Rebuttal Testimony of Jerry Fuess at 7 (April 8, 1999); ACI Exhibit 171, Staff Reserved RFI Responses (SWBT responses to ACI RFI 3-24) (June 5, 1999).

[371] ACI Exhibit 5, Direct Testimony of Terry L. Murray at 25-27 (Feb. 19, 1999); ACI Exhibit 171, Staff Reserved RFI Responses (June 5, 1999).

[372] *See* Appendix D for revised cost study.

tariff.[373] This appears to constitute a barrier to CLECs' offering of xDSL services, *i.e.*, charging wholesale customers conditioning charges, while excusing retail customers. Moreover, the likelihood of SWBT applying conditioning charges to a retail customer is lower because SWBT has segregated "clean loops" for ADSL service, which is the type of xDSL service it initially intends to provision.[374] The record reflects that SWBT even considered pre-grooming loops for its own retail service, but has not pursued that option.[375]

The Arbitrators find that SWBT must make those "clean loops" available for all xDSL services and use by all xDSL providers. The Arbitrators find that opening access to the segregated binder groups to all xDSL providers for all xDSL services will help ameliorate the imbalance created by SWBT and decrease the likelihood of other xDSL providers incurring conditioning charges.[376] Therefore, when a CLEC orders an xDSL loop, SWBT must make available for use on a nondiscriminatory basis one of the segregated loops that does not need

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[373] Tr. at 1327, 1401 (June 4, 1999).

[374] Tr. at 1379, ll. 23-25-1380, ll. 1-24; 1382, ll. 8-12 (June 4, 1999):

A (Deere) Yes, it is. What we have done -- now, don't get confused between designating binding groups to be used for ADSL and preconditioning.
Q (Farroba) What's the difference?
A (Deere) Designating just says we have picked a binder group that does not have other digital services in it, and hopefully not adjacent to it, and designated it to be used for POTS and ADSL services.
Q (Farroba) Are you going to have to condition those designated fiber groups?
A (Deere) Again, as we've said before, we don't offer, on a retail basis, ADSL where the cables are loaded, and so we do not -- you know, we do not go out and remove load coils because we don't offer it where they're loaded because the POTS service isn't going to work, and we have not removed bridged taps, that I'm aware of anywhere. Again --
Q (Malone) So, Mr. Deere, you stated that Southwestern Bell has predetermined some binder groups that they will reserve for POTS and ADSL service?
A (Deere) They have designated, yes.
Q (Malone) Those are just for ADSL, not for any other flavor of DSL?
A (Deere) That is correct. We have said as part of the plan that we have put forth is that all other cable binder groups will be available for those services.
Q (Malone) Do you know how many wire centers you've already reserved binder groups in?
A (Deere) There are wire centers in the major metropolitan areas; a hundred plus. I don't have a number right off the top of my head.

See also Tr. at 1780-1785, 1793-1803 (June 5, 1999).

[375] ACI Exhibit 171, Staff Reserved RFI Responses (SWBT responses to ACI RFI 3-22, 3-23) (June 5, 1999); Tr. at 1381-1385 (June 4, 1999).

[376] *See* DPL at 30 (May 28, 1999).

conditioning. If no more clean loops are available for use, then the conditioning charges stated below apply. The Arbitrators stress that SWBT's retail and/or advanced services affiliate shall not be given preferential access to such segregated clean loops, nor shall such clean loops be reserved exclusively for ADSL services.

The Arbitrators find that the interim conditioning charges, listed below, are applicable to every xDSL loop greater than 12,000 feet in length but less than 18,000 feet in length, in which the CLEC requests the removal of bridged tap, load coils, and/or repeaters.

	Nonrecurring	
	Initial	Additional
Removal of Repeater	$10.82	$9.41
Removal of Bridged Tap and Repeater	$27.08	$24.19
Removal of Bridged Tap	$17.62	$14.79
Removal of Bridged Tap and Load Coil	$40.44	$37.62
Removal of Load Coil	$25.66	$22.83
Removal of Repeater and Load Coil	$35.06	$32.23

The Arbitrators find that the interim conditioning charges, listed below, are applicable to every xDSL loop, at or in excess of 18,000 feet in length, that requires the specific conditioning listed.

	Nonrecurring	
	Initial	Additional
Removal of Repeater	$16.25	$13.42
Removal of Bridged Tap and Repeater	$37.89	$32.23
Removal of Bridged Tap	$24.46	$18.81
Removal of Bridged Tap and Load Coil	$59.35	$53.72
Removal of Load Coil	$40.55	$34.89
Removal of Repeater and Load Coil	$53.99	$48.34

Until such time as permanent conditioning charges are approved, SWBT shall condition xDSL loops, at the request of Petitioners, at the interim charges above. The conditioning charges are subject to refund/surcharge upon approval of permanent conditioning charges, back to the date the Interconnection Agreements resulting from this Award become effective.

30. Should SWBT be allowed to charge for a Loop Qualification Process?

Parties' Positions

See DPL Issue No. 18.

Award

The Arbitrators find that SWBT cannot impose a loop qualification process rather than provide information concerning loop makeup. Therefore, finding an appropriate charge for a loop qualification process is not necessary. *See* DPL Issue No. 18.

31. Is it appropriate to charge for loop makeup information?

Parties' Positions

Rhythms states the forward-looking cost of providing loop makeup information is $0. Rhythms notes that the *Local Competition Order* requires SWBT to offer its competitors access to the information existing in its OSS and related databases using mechanisms comparable to those available to its own personnel for accessing such information.[377] Additionally, Rhythms argues that the *Advances Services Order* concludes that new entrants should have full access to specific loop technical and engineering data as to "...the number of loops using advances services technology within the binder and type of technology deployed on those loops."[378] Rhythms states that the record reflects that SWBT can and will use its access to loop information

[377] ACI Post-Hearing Brief at 112 (Aug. 17, 1999); *Local Competition Order* at § 51.313(c).

[378] ACI Post-Hearing Brief at 112 (Aug. 17, 1999); *Advanced Services Order* at ¶ 73 (footnote omitted).

to tailor a fully electronic loop qualification process for its own retail ADSL operations. Thus, Rhythms argues, pursuant to FCC requirements, SWBT is obligated to offer Rhythms electronic access to this same loop makeup information.[379]

Rhythms believes that the cost of the loop makeup information should reflect the forward-looking economic cost of providing the information to Rhythms via an electronic interface. Rhythms argues that the cost for such a process would be *de minimis* because it involves no more than a small incremental use of SWBT's processor capacity.[380]

Covad agrees with Rhythms' rationale and argues that SWBT should provide CLECs with a computerized interface with its databases that will eliminate the need for SWBT to incur any expenses in providing loop makeup information to CLECs.[381]

SWBT offers to provide CLECs loop make-up information free of charge via the pre-qualification process.[382] The free information consists of one of three indicators that will identify the loop as a copper-based facility less than 12,000 feet, a copper based facility between 12,000 and 17,500 feet, or a copper based facility in excess of 17,500 feet, or a noncopper based facility.[383] SWBT states that it will negotiate a rate along with terms and conditions for providing additional information on a manual basis.[384]

Award

The Arbitrators find that SWBT should be fairly compensated for the real time access to its OSS functionalities required by DPL Issue No. 15. Because the OSS functionalities have not

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[379] ACI Post-Hearing Brief at 112 (Aug. 17, 1999).

[380] *Id.*

[381] DPL at 68-69 (May 28, 1999).

[382] SWBT Post Hearing Brief at 42 (Aug. 17, 1999).

[383] SWBT Exhibit 7, Rebuttal Testimony of William C. Deere at 9 (April 8, 1999). The pre-qualification has been referred to as "red, yellow, green."

[384] *Id.*

been created, the Arbitrators cannot adopt a cost-based rate for loop makeup information. However, during the interim, the Arbitrators find the non-recurring "dip charge" below to be appropriate. The Arbitrators find the "dip charge" to be in addition to any established service order charges applicable to Petitioners. The "dip charge" will apply on a per loop basis.

The Arbitrators order SWBT to file a cost study for the loop makeup information charge within one month after the implementation of its fully mechanized, real time, OSS functionalities as ordered in DPL Issue. No. 15. Until the Commission has approved a cost study, the Arbitrator's interim "dip charge" will apply. Until such time that a permanent loop make-up information charge is approved, SWBT shall provide Petitioners loop make-up information at the interim "dip charge" below. The interim "dip charge" is subject to refund/surcharge upon approval of a permanent loop make-up information charge back to the date the Interconnection Agreements resulting from this Award become effective.

The Arbitrators' decision is consistent with the terms of the SBC/Ameritech merger, in which the FCC found that "SBC/Ameritech is not required to eliminate extra charges for manual processing of service orders, provided that an electronic means of processing such orders is available to carriers. If, however, no electronic interface for processing orders of 30 lines or less is available to a carrier, SBC/Ameritech will eliminate any extra charge for manual processing and shall charge instead the rate for processing similar orders electronically."[385]

	Nonrecurring "Dip Charge"
Loop Makeup Information (Per Loop)	$0.10

32. If SWBT is permitted to require shielded cable for xDSL technologies, is there any additional cost associated with shielded intraoffice versus non-shielded cable?

Parties' Positions

[385] SBC/Ameritech Merger Order at ¶ 384.

See DPL Issue Nos. 7, 28(a), and 28(b).

Award

The Arbitrators find that SWBT is not permitted to require shielded cable for xDSL technologies. The Arbitrators add that all cross connect facilities, shielded or non-shielded, must be provided in a reasonable and non-discriminatory manner.[386]

35. How should cageless collocation be priced?

Parties reached agreement on this issue in the arbitration proceedings on April 15, 1999.[387]

VII. Miscellaneous

DPL Issue Nos. 23-25, 37-39

23. Should all performance measures and penalties adopted in SWBT's §271 proceeding be incorporated into the Interconnection Agreement?

Parties' Positions

Rhythms believes the inclusion of all meaningful and effective performance measures and penalties is crucial to ensuring SWBT's ongoing compliance with the terms of the interconnection agreement. Rhythms views the performance measurements and penalties adopted in the §271 proceeding as a minimum standard and requests the opportunity to negotiate additional measurements if necessary. Rhythms argues that all of the performance measurements and penalties established in the § 271 proceeding must be incorporated into the resulting Interconnection Agreements (including the measurements and penalties related to loops in excess of 17,500 feet in length and loops less than 17,500 feet in length), in those instances

[386] *UNE Remand Order* at ¶ 178.

[387] Tr. at 467-541 (April 15, 1999); Provisions are adopted and should be incorporated into the resulting Interconnection Agreements as contained in SWBT Exhibit 6, Rebuttal Testimony of Michael C. Auinbauh at Schedule 1 (April 8, 1999).

where SWBT recommends conditioning and the CLEC declines conditioning or chooses partial conditioning of the xDSL loop.[388]

Covad does not dispute this issue.

SWBT offers to provide most of the performance measures agreed to during the §271 proceeding. However, SWBT identifies two situations in which it believes certain performance measures are not appropriate. SWBT asserts that maintenance and repair measurement should not apply for loops in excess of 17,500 feet in length. SWBT also argues that performance measures should not apply to loops in which SWBT recommends conditioning and the CLEC declines the conditioning.[389]

SWBT does not offer to provide the performance penalties associated with the measurements. SWBT witness Auinbauh testified that it "has agreed to language in the negotiation process and in those draft agreements that come out of the 271 process. I believe that that language was drafted specifically excluding the penalty portion of that."[390] SWBT explains that it would be willing to apply the penalties in the context of "MFNing" into an agreement that included the penalties.[391]

Award

The Arbitrators find that all performance measures and penalties adopted in the §271 proceeding, except as discussed below, shall be incorporated into the resulting Interconnection Agreements. The performance measurement penalties should be a minimum standard. The Arbitrators encourage the Parties to negotiate additional performance measures and penalties if desired. The Arbitrators find that SWBT shall not be required to guarantee that the xDSL loop(s) ordered will perform (with regard to transmission speed) as desired by CLEC for xDSL

[388] Rhythms Post-Hearing Briefs at 132 (Aug. 17, 1999).

[389] SWBT Post-Hearing Brief at 80 - 81 (Aug. 17, 1999); SWBT Exhibit 5, Rebuttal Testimony of Michael C. Auinbauh at 17 - 18 (April 8, 1999).

[390] Tr. at 402 (April 15, 1999).

[391] *Id.* at 403.

services, but instead shall guarantee basic metallic loop parameters, including continuity and pair balance. All other performance measures and penalties applicable to the provisioning of xDSL capable loops, including those added to the § 271 agreement as a result of this Award[392], will fully apply to all xDSL loops without regard to the loop length.

24. Should ACI be permitted to incorporate into the interconnection agreement the results, agreements and decisions reached in the § 271 proceeding?

Parties' Positions

Rhythms proposes contract language that would allow either Party, upon request, to adopt and incorporate into the resulting Interconnection Agreements the results, agreements and/or decisions reached in the §271 proceeding.[393] *See* DPL Issue No. 23.

Covad does not dispute this issue.

SWBT states that it will make available to requesting CLECs any service or network element arrangement from a Commission-approved agreement, provided that the CLECs also accept all legitimately related terms and conditions. SWBT clarifies that any agreed-to actions it undertakes in connection with obtaining interLATA relief may not be available generally to all CLECs.[394]

Award

The Arbitrators find that Rhythms should be permitted to incorporate into the resulting Interconnection Agreements any results, agreements and decisions reached in the §271 proceeding that are included in the T2A, provided that Rhythms also accept any legitimately related terms and conditions. The Arbitrators find that agreements reached in the §271

[392] *See* Implementation Schedule in Section VIII of Award.

[393] ACI's Post-Hearing Brief at 133 (Aug. 17, 1999).

[394] SWBT Post-Hearing Brief at 81 (Aug. 17, 1999); SWBT Exhibit 6, Rebuttal Testimony of Michael Auinbauh at 18 (April 8, 1999).

proceeding should be available to all CLECs in order to further competition in Texas. *See* DPL Issue No. 25.

25. Should Rhythms be entitled to "pick and choose" on a piecemeal basis rates and conditions from other, already approved, interconnection contracts?

Parties' Positions

Rhythms claims that it must have the right to incorporate provisions from existing interconnection agreements into its resulting Interconnection Agreement with SWBT. Rhythms argues that the right to "pick and choose" is grounded in FTA § 252(i). Rhythms contends that the FCC's interpretation of this section in the *Local Competition First Report and Order* supports its position. The FCC stated that "a carrier may obtain access to individual elements such as unbundled loops at the same rates, terms and conditions as contained in any approved agreement."[395]

Covad does not dispute this issue.

SWBT states that it will make available to requesting CLECs any service or network element arrangement from a Commission-approved agreement, provided that CLECs also accept all legitimately related terms and conditions.[396]

Award

The Arbitrators find that Rhythms is entitled to "pick and choose" rates and conditions from other, already approved, interconnection agreements. The Arbitrators find that Rhythms may "pick and choose" individual elements and rates when it agrees to adopt the legitimately

[395] ACI's Post-Hearing Brief at 134 (Aug. 17, 1999); *Local Competition First Report and Order* at ¶ 1314.

[396] SWBT Post-Hearing Brief at 81 (Aug. 17, 1999); SWBT Exhibit 6, Rebuttal Testimony of Michael Auinbauh at 18 (April 8, 1999).

related terms and conditions. The Arbitrators direct Rhythms and SWBT to follow the interim "pick and choose" process established by the Commission in Docket No. 21100.[397]

37. Given that xDSL is a newly developing service, should SWBT be required to give to Rhythms analogous preferential rates adopted after this proceeding?

Parties' Positions

Rhythms claims that it must have the right to incorporate provisions from subsequent interconnection agreements into its agreement with SWBT. Because xDSL is a new technology, Rhythms testifies that it would be appropriate to permit Rhythms to opt into more favorable rates, terms or conditions from future contracts without the necessity to terminate its Interconnection Agreement with SWBT. Rhythms asserts that the FCC recognized the importance if this "opt-in" ability in its *Local Competition First Report and Order*. The FCC stated that "unbundled access to agreement provisions will enable smaller carriers who lack bargaining power to obtain favorable terms and conditions – including rates – negotiated by large IXCs...." Rhythms notes that the U.S. Supreme Court has affirmed this interpretation.[398]

Covad does not dispute this issue.

SWBT asserts that Rhythms may apply the FCC rules to receive "more favorable" terms as long as it takes all legitimately related terms and conditions of the "more favorable" agreement. SWBT explains that Rhythms would have three options: (1) adopt the "more favorable" agreement under the "Other Available Agreements" clause of the underlying agreement; (2) request that SWBT negotiate an amendment to Rhythms' current agreement; or (3) terminate its agreement and negotiate another agreement.[399]

Award

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[397] *Application of Metro Access Networks, Inc. for Approval of Interconnection Agreements under PURA and the Telecommunications Act of 1996,* Order on Appeal of Order No. 4, Docket No. 21100 (Aug. 27, 1999).

[398] ACI's Post-Hearing Briefs at 133-134 (Aug. 17, 1999); *Local Competition First Report and Order* at ¶ 1313; *AT&T Corp. v. Iowa Utilities Board*, 119 S. Ct. at 738.

[399] SWBT Post-Hearing Brief at 82 (Aug. 17, 1999).

The Arbitrators find that SWBT is not required to automatically give Rhythms analogous preferential rates adopted after this proceeding. However, providing Rhythms accepts the legitimately related terms and conditions, the Arbitrators find that Rhythms must be able to "opt in" to other SWBT agreements. The Arbitrators require SWBT to negotiate in good faith should Rhythms request to utilize its right to "pick and choose," or any of the three options detailed above by SWBT. *See* DPL Issue No. 25.

38. Should the interconnection agreement continue to require dispute resolution before the Commission in light of the Supreme Court's recent decision in *Iowa Utilities Board v. AT&T Corp.?*

Covad and SWBT reached agreement on this issue during the arbitration proceedings.[400] The issue is not disputed by Rhythms.[401]

39. Should agreed-to commercial arbitrations alternate between SWBT's home and Covad's?

Covad and SWBT reached agreement on this issue during the arbitration proceedings.[402] The issue is not disputed by Rhythms.[403]

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[400] Tr. at 467-541 (April 15, 1999); Provisions are adopted and should be incorporated into the resulting Covad and SWBT Interconnection Agreement as contained in Covad's Post-Hearing Brief at Exhibit 2 (Aug. 17, 1999).

[401] Covad Post-Hearing Brief at 5 (Aug. 17, 1999); SWBT Post-Hearing Brief at 84 (Aug. 17, 1999); Tr. at 770 (June 2, 1999).

[402] Tr. at 467-541 (April 15, 1999); Provisions are adopted and should be incorporated into the resulting Covad and SWBT Interconnection Agreement as contained in Covad's Post-Hearing Brief at Exhibit 2 (Aug. 17, 1999).

[403] Covad Post-Hearing Brief at 5 (Aug. 17, 1999); SWBT Post-Hearing Brief at 84 (Aug. 17, 1999); Tr. at 770 (June 2, 1999).

VIII. Implementation Schedule

Pursuant to FTA §252(c)(3), the Arbitrators provide the following "schedule for implementation of the terms and conditions" of this Award and the Parties' resulting Interconnection Agreements. This schedule incorporates the deadlines for: (1) the filing and approval of Interconnection Agreements consistent with this Award; (2) the filing of a new xDSL loop cost study; (3) the filing of new cost studies for conditioning of xDSL loops; (4) the implementation of enhancements to SWBT's existing Datagate and EDI interfaces for pre-ordering (including electronic access to loop make-up information) and ordering of DSL-capable loops; (5) availability of and access to trouble reports for any function or capability of the accessed loop element; (6) the filing of a loop make-up information cost study; (7) the finalizing of performance measures for xDSL; and (8) the filing of a plan to ensure that SWBT's retail ADSL employees (and employees of any advanced services affiliate) do not have access to competitive information or other information at SWBT that creates a competitive advantage for SWBT's retail xDSL deployment. The schedule is, and should be considered, an integral part of the Award in this proceeding.

Parties file Interconnection Agreements that comply with Award	December 30, 1999
Parties file proposed performance measures for xDSL[404] (DPL Issue No. 23)	December 30, 1999
SWBT makes available access to trouble reports for any function or capability of the accessed loop element in compliance with Award (DPL Issue No. 15)	December 30, 1999
SWBT files Plan to Ensure Competitive Neutrality and Nondiscrimination in Access to Competitively Relevant Information (DPL Issue No. 16)	January 14, 2000
SWBT files new xDSL Loop Cost Study (DPL Issue No. 27)	March 1, 2000

[404] As required by Section 10.3, Attachment 25 of the T2A:

10.3 Performance measurements for xDSL will be finalized within thirty (30) days after the final Order in the xDSL Arbitration.

SWBT files new Conditioning Cost Study (DPL Issue No. 29)	March 1, 2000
SWBT implements Datagate and EDI enhancements, including electronic pre-ordering of Loop Make-up Information (DPL Issue Nos. 15 and 19a)	May 30, 2000
SWBT files Loop Make-up Information Cost Study (DPL Issue No. 31)	June 30, 2000
Deadline for Parties to: (1) file negotiated permanent rates; and/or (2) request further arbitration on rate issues	July 30, 2000

IX. Conclusion

The Arbitrators conclude that the foregoing Arbitration Award, including the attached appendices, resolves the disputed issues presented by the Parties for arbitration. The Arbitrators further find that this resolution complies with the standards set in FTA §252(c), the relevant provisions of PURA99, and P.U.C. PROC. Rs. 22.301-22.310.

SIGNED AT AUSTIN, TEXAS the 30th day of November, 1999.

FTA § 252 ARBITRATION PANEL

KATHERINE D. FARROBA
ARBITRATOR

ROWLAND L. CURRY
ARBITRATOR

Commission Staff Arbitration Advisors

Jennifer Kambhampati
Abigail C. Klamert
Melanie M. Malone
Elango Rajagopal

Attachment A

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Confidential Attachment B

(One page under seal)

Confidential References in Award

Confidential Attachment C

(3 pages under seal)

Revised Shielded Cross Connect Cost Study

Confidential Attachment D

(2 pages under seal)

Revised Conditioning Cost Study for xDSL Loops
greater than 12,000 feet but less than 18,000 feet in Length

Confidential Attachment E

(2 pages under seal)

Revised Conditioning Cost Study for xDSL Loops at or in Excess of 18,000 feet in Length