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

[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

[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

[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).