

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO**

|   |   |                     |
|---|---|---------------------|
| In the matter of                          | ) |                     |
|   | ) |                     |
| The Investigation into Qwest              | ) |                     |
| Communications, Inc.'s Compliance with    | ) | Docket No. 97I-198T |
| § 271(c) of the Telecommunications Act of | ) |                     |
| 1996                                      | ) |                     |

**VOLUME III**

**COMMISSION STAFF REPORT ON  
QWEST'S COMPLIANCE WITH  
CHECKLIST ITEM NO. 2  
REGARDING EMERGING SERVICES:**

**Dark Fiber**

**Sub-Loops**

**Line Sharing**

**Packet Switching**

**FINAL REPORT  
NOVEMBER 14, 2001**

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## **I. INTRODUCTION**

1. This is the third in a series of reports prepared by the Staff of the Colorado Public Utilities Commission in Docket No. 97I-198T, which is the investigation into the compliance of Qwest Communication, Inc. (Qwest), formerly known as U S WEST Communications, Inc. (U S WEST)<sup>1</sup>, with the requirements of § 271 of the Telecommunications Act of 1996 (the Act)<sup>2</sup>.
2. The Staff reports will be filed with the Colorado Public Utilities Commission (Commission) for consideration and are part of the factual record in this proceeding. The Commission directed Staff to conduct a series of technical workshops designed to provide open and full participation in the investigation by all interested parties. The technical workshops formed the basis of the lengthy, rigorous, and open collaborative process in Colorado that has been favored in the past by the Federal Communications Commission (FCC) in its approval of prior § 271 applications in New York and Texas. *Bell Atlantic New York Order* at ¶¶ 8 and 9 and *SBC Texas Order* at ¶ 11. The workshops served to identify and focus issues, to develop consensus resolution of issues where possible, and to frame clearly those issues that could not be resolved and thus reached impasse among participants. Impasse issues were then to be addressed through the dispute resolution process agreed to by participants and ordered by the Commission for this investigation and will be considered by the Commission in order to resolve the impasse.

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<sup>1</sup> During the pendency of this proceeding, U S WEST and Qwest completed their merger. The names of Qwest and U S WEST are considered to be interchangeable in this report. For ease of reading, this report primarily will use Qwest in the text.

<sup>2</sup> Pub L. No. 104-104, 110 Stat. 56, *codified at* 47 U.S.C. 151, *et seq.*

3. Volume III in the series of Staff reports addresses Workshop 3, which dealt with § 271 Checklist Item No. 2 with respect to Emerging Services.
4. The Colorado Commission is participating in the regional test of Qwest's Operations Support Systems (OSS) being conducted by the Regional Oversight Committee (ROC).
5. A description of the process the Colorado Commission adopted for its investigation into Qwest's compliance with § 271 of the Act can be found in the BACKGROUND section of Volume I in this series of Staff reports.
6. The final Staff assessment of Qwest's compliance with the requirements of Checklist Item No. 2 will be made upon the completion of the ROC OSS Test when those test results are incorporated into this Colorado proceeding. Staff will also consider in its compliance assessment any other evidence, including Colorado-specific commercial usage experience, that may be brought to the Commission's attention.

## **II. EXECUTIVE SUMMARY**

7. Colorado Workshop 3 is the third in a series of technical workshops that are part of the Commission's investigation into Qwest's compliance with § 271 of the Act in order for Qwest to obtain FCC authorization to provide in-region, interLATA services. Workshop 3 dealt primarily with the terms and conditions of Qwest's Statement of Generally Available Terms (SGAT) with regard to Checklist Item No. 2 concerning Emerging Services. Under § 271(c)(2)(B)(ii) of the Act, Qwest must provide nondiscriminatory access to network elements in accordance with the requirements of §§ 251(c)(3) and 252(d)(1). Qwest's SGAT sets forth the rates, terms, and conditions that it proposes to satisfy the requirement that it has a concrete and specific legal obligation to provide access to the Emerging Services unbundled network elements in accordance with the requirements of the Act and the FCC. In this regard, Workshop 3 dealt with the provision of dark fiber, sub-loops, line sharing, and packet switching. Other specific unbundled network elements were addressed in other workshops and will be discussed in those other reports.
8. The technical discussions held in Workshop 3 regarding Emerging Services were exhaustive and thorough. Additionally, extensive testimony and comments were filed by participants to add to the record in this investigatory proceeding. There should be no question that the terms and conditions of Qwest's SGAT were thoroughly and rigorously reviewed. Participants were given ample opportunity to flesh out their respective issues and have them fully discussed.

9. During the workshop, issues that could not be resolved by consensus in the collaborative process were considered to be at impasse and will be considered by the Commission in accordance with the dispute resolution process agreed to by the participants and ordered by the Commission in this docket. Volume IIIA in this series of Staff reports will discuss the impasse issues and reflect their resolution by the decisions of the Commission. Those decisions will specify what the Commission believes is required of Qwest to achieve compliance with the requirements of the Act and the FCC with regard to these impasse issues.
10. For the provisioning of Emerging Services, in addition to the SGAT, Qwest must also demonstrate two things. First, that the rates it proposes are just and reasonable, which will be decided in the Commission's companion cost docket (Docket No. 99A-577T). Second, that it currently provides, or is ready to provide, access to Emerging Services in quantities that competitors may reasonably demand and at an acceptable level of quality. For this assessment, the Commission will rely on the results of the ROC OSS Test and any other evidence, including Colorado-specific commercial usage experience, that may be brought to the Commission's attention.

#### **A. ACCESS TO DARK FIBER**

11. Qwest asserts that it provides nondiscriminatory access to dark fiber in accordance with §§ 251(c)(3) and 352(d)(1) of the Act. During Workshop 3, there were five issues related to dark fiber that were disputed among participants and reached impasse. These issues are stated in Appendix B of this report. These impasse issues will be resolved by the

Commission and that resolution will specify what the Commission believes is necessary for Qwest to achieve compliance for these issues.

12. Subject to resolution of the impasse issues by the Commission, a demonstration that the Commission's decisions have been implemented and a demonstration that Qwest has incorporated into the SGAT the consensus language agreed to during the workshop, Staff believes that the terms and conditions of Qwest's SGAT otherwise meet the requirements of the Act and the FCC. The SGAT demonstrates that Qwest has a concrete and specific legal obligation to furnish access to dark fiber. Except for the impasse issues, the terms and conditions of Qwest's SGAT regarding access to dark fiber are not otherwise disputed by participants.
13. The Commission will address the issue of rates in the cost docket.
14. The Commission will evaluate Qwest's current performance regarding access to unbundled network elements based upon the results of the ROC OSS Test and other evidence that may be brought to its attention.

## **B. ACCESS TO SUB-LOOPS**

15. Qwest asserts that it provides nondiscriminatory access to sub-loops in accordance with §§ 251(c)(3) and 252(d)(1) of the Act.
16. During Workshop 3, there were ten issues related to sub-loops that were disputed among participants and reached impasse. These issues are stated in Appendix B of this report. These impasse issues will be resolved by the Commission and that resolution will specify



what the Commission believes is necessary for Qwest to achieve compliance for these issues.

17. Subject to resolution of the impasse issues by the Commission, a demonstration that the Commission's decisions have been implemented, and a demonstration that Qwest has incorporated into the SGAT the consensus language agreed to during the workshop, Staff believes that the terms and conditions of Qwest's SGAT otherwise meet the requirements of the Act and the FCC. The SGAT demonstrates that Qwest has a concrete and specific legal obligation to furnish access to sub-loops. Except for the impasse issues, the terms and conditions of Qwest's SGAT regarding access to sub-loops are not otherwise disputed by participants.
18. The Commission will address the issue of rates in the cost docket.
19. The Commission will evaluate Qwest's current performance regarding access to unbundled network elements based upon the results of the ROC OSS Test and other evidence that may be brought to its attention.

### **C. LINE SHARING**

20. Qwest asserts that it provides nondiscriminatory access to line sharing in accordance with §§ 251(c)(3) and 252(d)(1) of the Act.
21. During Workshop 3, there were four issues related to line sharing that were disputed among participants and reached impasse. These issues are stated in Appendix B of this report. These impasse issues will be resolved by the Commission and that resolution will

specify what the Commission believes is necessary for Qwest to achieve compliance for these issues.

22. Subject to resolution of the impasse issues by the Commission, a demonstration that the Commission's decisions have been implemented, and a demonstration that Qwest has incorporated into the SGAT the consensus language agreed to during the workshop, Staff believes that the terms and conditions of Qwest's SGAT otherwise meet the requirements of the Act and the FCC. The SGAT demonstrates that Qwest has a concrete and specific legal obligation to furnish access to line sharing. Except for the impasse issues, the terms and conditions of Qwest's SGAT regarding access to line sharing are not otherwise disputed by participants.
23. The Commission will address the issue of rates in the cost docket.
24. The Commission will evaluate Qwest's current performance regarding access to unbundled network elements based upon the results of the ROC OSS Test and other evidence that may be brought to its attention.

#### **D. PACKET SWITCHING**

25. Qwest asserts that it provides nondiscriminatory access to packet switching in accordance with §§ 251(c)(3) and 252(d)(1) of the Act.
26. During Workshop 3, there were three issues related to packet switching that were disputed among participants and reached impasse. These issues are stated in Appendix B of this report. These impasse issues will be resolved by the Commission and that

resolution will specify what the Commission believes is necessary for Qwest to achieve compliance for these issues.

27. Subject to resolution of the impasse issues by the Commission, a demonstration that the Commission's decisions have been implemented, and a demonstration that Qwest has incorporated into the SGAT the consensus language agreed to during the workshop, Staff believes that the terms and conditions of Qwest's SGAT otherwise meet the requirements of the Act and the FCC. The SGAT demonstrates that Qwest has a concrete and specific legal obligation to furnish access to packet switching. Except for the impasse issues, the terms and conditions of Qwest's SGAT regarding access to packet switching are not otherwise disputed by participants.
28. The Commission will address the issue of rates in the cost docket.
29. The Commission will evaluate Qwest's current performance regarding access to unbundled network elements based upon the results of the ROC OSS Test and other evidence that may be brought to its attention.

### **III. FINDINGS**

30. This section of the report is arranged to address the separate Emerging Services topics that were discussed during Workshop 3. The Workshop was held October 31-November 3, 2000, and December 12-15, 2000. Sixty-nine exhibits were admitted. The general format for the checklist item discussion includes a description of FCC requirements, followed by a discussion of Qwest's position based on its pre-filed testimony. Competitors' positions, also based on pre-filed testimony, are then presented, followed by

Qwest's response, which recites Qwest rebuttal testimony. The discussion then includes the principal discussion elements of Workshop 3, in which these checklist items were debated. The discussion concludes with Staff's statement of compliance assessment.

31. Appendix A contains a synopsis of the issues discussed in Workshop 3. Appendix B contains a brief description of the impasse issues of the workshop. Appendix C provides a list of Workshop 3 participants. Appendix D contains a list of Order and Decision References. Appendix E provides a list of Workshop 3 Exhibits. Appendix F contains a list of acronyms.

## **A. DARK FIBER**

### **1. FCC Requirements**

32. Under § 271(c)(2)(B)(ii) of the Act, ILECs must provide nondiscriminatory access to network elements in accordance with the requirements of §§ 251(c)(3) and 252(d)(1). Section 251(c)(3) of the Act requires, in turn, that access to Unbundled Network Elements be provided "on rates, terms and conditions that are just, reasonable and nondiscriminatory." In the FCC's *UNE Remand Order*, the FCC characterized the specific market-opening mechanisms of § 251 of the Act, including the unbundling requirements, as "central to the new statutory scheme" of the Act and as designed "generally to reduce inherent economic and operational advantages possessed by incumbent local exchange carriers." *UNE Remand Order* ¶ 3. The FCC also recognized that, "[d]espite the development of competition in some markets, incumbents still control the vast majority of the facilities that comprise the local telecommunications network, giving them advantages of economies of scale and scope not enjoyed by competitive

LECs." *Id.* at ¶ 13. Further, the FCC noted that its unbundling rules are "designed to facilitate the rapid and efficient deployment of all telecommunications services, including advanced services." *Id.* at ¶ 14.

33. The access to emerging services requirements are the result of the FCC's *UNE Remand Order* and the *Line Sharing Order*. The *Line Sharing Order* added the requirement that incumbent local exchange carriers (ILECs) provide access to the high frequency portion of the loop, and the *UNE Remand Order* added the requirements for unbundling, access to dark fiber, and limited access to unbundled packet switching.
34. The *UNE Remand Order* identified dark fiber as a new UNE. The FCC required the unbundling of dark fiber both in the loop plant and interoffice facilities. The *Order* states:

Dark Fiber. We also modify the loop definition to specify that the loop facility includes dark fiber. . . . [W]e conclude that both copper and fiber alike represent unused loop capacity. We find, therefore, that dark fiber and extra copper both fall within the loop network element's "facilities, functions, and capabilities." ¶ 174.

Dark Fiber. In addition, we modify the definition of dedicated transport to include dark fiber. Dark Fiber is deployed, unlit fiber optic cable that connects two points within the incumbent LEC's network. As discussed above, dark or "unlit" fiber, unlike "lit" fiber, does not have electronics on either end of the dark fiber segment to energize it to transmit a telecommunications service . . . . ¶ 325.

35. The requirement for ILECs to provide unbundled access to dark fiber was effective 120 days after the *UNE Remand Order* was published in the *Federal Register*, or as of May 18, 2000.

## 2. Qwest's Position

36. On September 1, 2000, Qwest witness Karen A. Stewart filed an affidavit concerning emerging services now available to Competitive Local Exchange Carriers (CLECs) in Colorado, including access to dark fiber. *Exhibit 3-Qwest-1*.
37. Prior to the *UNE Remand Order*, Qwest had a binding obligation to provide access to dark fiber in numerous interconnection agreements. In Colorado, as of August 1, 2000, Qwest had received 16 inquiries and six actual dark fiber orders. *Id.* at page 30.
38. In order to comply with the dark fiber unbundling obligations of the *UNE Remand Order*, Qwest has modified its Colorado SGAT to include a legally-binding obligation to provide access to unbundled dark fiber. Qwest provides CLECs with nondiscriminatory access to unbundled dark fiber interoffice transport and loop facilities. Specifically, the Colorado SGAT states: "Unbundled Dark Fiber (UDF) is a deployed, unlit pair of fiber optic cable or strands that connects two points within Qwest's network. UDF is a single transmission path between two Qwest Wire Centers or between a Qwest Wire Center and an end user customer premise in the same LATA and state. UDF exists in two distinct forms: (a) UDF Interoffice Facility (UDF-IOF), which constitutes an existing route between two Qwest Wire Centers; and (b) UDF-Loop, which constitutes an existing loop between a Qwest Wire Center and either a fiber distribution panel located at an appropriate outside plant structure or an end-user customer premises." Qwest further defines the specifications, interfaces, and parameters associated with unbundled dark fiber in Technical Reference Publication No. 77383. In addition, the Interconnection & Resale Resource Guide provides competitive local exchange carriers (CLECs) with

product information, rates, and availability. CLECs can access the IRRG at URL: <http://www.uswest.com/wholesale/>. Qwest has the methods, procedures, and training in place to provision orders for unbundled dark fiber should a CLEC request dark fiber loops or unbundled transport. *Id.* at pages 30-32.

39. Qwest provides unbundled dark fiber of substantially the same quality as the fiber facilities that Qwest uses to provide service to its own end user customers and within a reasonable time frame. Qwest will provide CLECs with access to existing unbundled dark fiber facilities used in connection with its activities as an ILEC. The UDF-Loop includes the terminations and cross-connects at both ends. *Id.* at pages 32-33.
40. As acknowledged by the FCC in the *UNE Remand Order*, dark fiber does not contain the electronics necessary to transmit a telecommunications service (*i.e.*, the fiber is “dark” and not “lit” with the electronic equipment that is required to use the fiber strands to transmit voice or data traffic). Thus, each CLEC is responsible for obtaining and connecting electronic equipment, whether light generating or light terminating equipment, to the unbundled dark fiber. Should a CLEC require access to fiber optic cable or strands that have the necessary electronics to transmit voice and data, the CLEC would not order unbundled dark fiber. Instead, the CLEC would order the appropriate high capacity OC level options that are available in the Unbundled Dedicated Interoffice Transport section of the SGAT. Qwest will provide the CLEC with access to existing dark fiber (used in connection with its activities as an ILEC) in its network in either single-mode or multi-mode. A single-mode fiber will carry only a single wave length. With access to multi-mode fiber, the CLEC is able to transmit multiple signals at the same time. During the inquiry process, Qwest will inform the CLEC of the availability

of single-mode and multi-mode fiber. Qwest will provide unbundled dark fiber to the CLEC in increments of two strands (by the pair), thus allowing the CLEC to have a transmit and receive path for its telecommunications services. *Id.* at pages 33-34.

41. Prior to implementing unbundled dark fiber, it is necessary to determine if dark fiber is available between the requested two locations. In general, fiber facilities are in the Qwest interoffice network. However, Qwest has also deployed dark fiber in its loop facilities. These deployments have predominately been in high-density metropolitan areas that have a concentration of large business customers. Large business customers often have extensive communications needs that require the high-speed capacity of a fiber loop. A CLEC first submits an unbundled dark fiber inquiry through its Qwest Account Manager. In certain circumstances, dark fiber may exist along the requested route and yet be unavailable to be dedicated to the requesting CLEC. The FCC anticipated that ILECs might need reserves of dark fiber to meet their legal obligations in a state. Initially, the CLEC determines if the need for dark fiber is between two Qwest wire centers (IOF) or between a Qwest wire center and a customer premise or outside plant structure (loop). Once the type of dark fiber is determined and whether dark fiber is available is determined, the CLEC may immediately order the fiber. If the request is between a Qwest wire center and an outside plant structure (loop), the CLEC will first submit a field verification and quote request. Once complete and accepted, the CLEC may order unbundled dark fiber. The CLEC is responsible for all permits, licenses, bonds, or other necessary legal authority and permission, at the CLEC's expense, in order to gain access to unbundled dark fiber at an outside plant structure. The CLEC must contact all owners of public and private rights-of-way to obtain permission as required to perform the



necessary work to access unbundled dark fiber in a mid-point arrangement. *Id.* at pages 34-36.

42. Qwest has the methods and procedures in place to provide a CLEC with access to dark fiber in the interoffice and in the loop portion of its network. Qwest will provision dark fiber in Colorado utilizing defined procedural flows. Both the SGAT and IRRG identify the steps a CLEC must take to obtain access to unbundled dark fiber. The first step is the inquiry process. A CLEC must submit an unbundled dark fiber Availability Inquiry and Request form through its Qwest Account Manager. This inquiry is used to determine the availability of unbundled dark fiber between the two requested locations (a UDF-IOF or a UDF-Loop). The CLEC must specify the two Qwest central offices or the end user premise location and the number of fibers requested. Within 10 business days, Qwest will inform the CLEC of the availability of dark fiber that will meet CLEC's request, if any. The second step is the Field Verification & Quote Preparation process. The FVQP is only required when the request is for access to an unbundled dark fiber pair via a mid-point structure arrangement. A quote and implementation timeline will be developed and communicated to the CLEC. The established interval for a Mid-Point Structure Inquiry is 20 business days. The third step is the provisioning phase. When step one or steps one and two above have been completed, the CLEC may choose to order unbundled dark fiber. Qwest will provision dark fiber in its interoffice or in its loop facilities within 20 business days for a wire center to wire center or a wire center to customer premise request. The provisioning interval for access at a mid-point outside structure is individual case based. *Id.* at pages 36-37.

43. Unbundled dark fiber creates a unique maintenance challenge for Qwest and requesting CLECs. Consistently, in its high capacity interoffice network, Qwest has network monitoring equipment to alarm and pinpoint network failures. Such monitoring is normally performed using the electronic equipment connected to the fiber, which in this case is owned and controlled by the CLEC. Therefore, to identify where trouble points may exist, it is critical that Qwest and the CLEC perform cooperative testing and trouble isolation after the CLEC has isolated the trouble to the Qwest portion of the unbundled dark fiber. However, in the case of a major cable failure (or cut) that affects the entire cable, Qwest would normally detect problems on its fibers. Qwest has a notification process in place to alert the CLEC when such major network outages occur. *Id.* at pages 27-38.

### 3. Competitors' Positions

44. AT&T filed initial comments for the Emerging Services workshop on October 11, 2000. *Exhibit 3-ATT-1*. AT&T submitted its comments addressing the topic of Emerging Services which includes Sub-Loop unbundling, Line Sharing, Line Splitting, Packet Switching, and Dark Fiber.
45. AT&T asserts in its discussion on dark fiber that the FCC, in the *UNE Remand Order*, required ILECs, such as Qwest, to provide access to unbundled dark fiber because it is included in the definition of the dedicated interoffice transport network element. *Id.* at page 45. Section 10.7 of the SGAT contains Qwest's terms for access to dark fiber. According to AT&T, Qwest's proposal falls short of providing nondiscriminatory access to dark fiber at any technically feasible point on just and reasonable terms. *Id.*

46. Section 9.7.1 of Qwest's SGAT sets forth a definition of UDF. The definition contained in this section should be revised to make clear that UDF is available between a Qwest wire center and a CLEC wire center. Failure to provide access to this type of UDF would impair the CLEC's ability to provide service. Applying the same logic, Qwest should modify §§ 9.7.2.12, 9.7.5.2.1, and 9.7.5.2.2 to provide that CLEC collocation is not required at both ends of the UDF. *Id.* at page 45.
47. Section 9.7.2.2 purports to impose on a CLEC a reciprocal requirement to make UDF available to Qwest. This imposition by Qwest is without foundation in law and should be eliminated from the SGAT. *Id.* at page 46.
48. Section 9.7.2.3 sets forth Qwest's obligation to provide "existing dark fiber" facilities. This language impermissibly restricts Qwest's UDF offering to existing facilities and creates the presumption that UDF facilities that become available subsequent to the date of the SGAT will not be made available. This reference to "existing" facilities should be deleted from this section. *Id.*
49. Sections 9.7.2.4, 9.7.2.5, and 9.7.2.10 set forth certain limitations on Qwest's requirements to unbundle dark fiber based on internal needs to reserve maintenance capacity and to reclaim capacity already in use. Any such restriction on use by CLECs must be reasonable and relate directly to Qwest's obligation to provide service as the Provider of Last Resort. Sections 9.7.2.4 and 9.7.2.10 contain requirements apparently imposed by the Texas Public Utilities Commission. AT&T notes that Southwestern Bell demonstrated that the provisions are appropriate in Texas, but Qwest has not demonstrated that they are appropriate in Colorado. *Id.*

50. Section 9.7.2.5(b) causes AT&T the most concern relating to this issue. AT&T proposes that Qwest make more explicit when and how dark fiber is "designated for use in an approved, or pending job on behalf of Qwest or another CLEC." By making this provision more explicit and describing "approved, or pending jobs," CLECs can be better assured that Qwest is not restricting CLEC access to dark fiber capacity. In SGAT § 9.7.2.10, Qwest should make explicit the terms that the Commission has set for reclamation of dark fiber. If there are no such terms, then this section should be eliminated. *Id.* at pages 46 and 47.
51. Qwest's SGAT § 9.7.2.11 requires CLECs to combine dark fiber with other UNEs or CLEC facilities. AT&T believes that in certain circumstances it may be appropriate for Qwest to combine dark fiber with another UNE or with CLEC facilities rather than the CLEC doing the combining. AT&T proposes that this provision be changed to accommodate this possibility. *Id.* at page 47.
52. AT&T objects to SGAT § 9.7.2.15 insofar as it can be read to require CLECs to obtain third-party permission, license, or authority to access rights-of-way. The parties fully discussed this issue in Workshop 1, and that discussion should guide the parties' resolution of this issue. *Id.* at page 47.
53. In § 9.7.2.16, Qwest requires a CLEC return UDF to "its original condition." AT&T states that reasonable "wear and tear" should be expected and that CLECs should not be required to pay to return the UDF to "its original condition." *Id.* at page 47.

54. Section 9.7.3.2 contains the provision for Qwest to supply CLECs with notification of available fiber. AT&T asserts that this section should also require Qwest to provide CLECs with information on the potential routes to be used. *Id.* at page 47.
55. AT&T also proposes that CLECs be given the option to provide good faith, non-binding forecasts of transport needs to Qwest and that Qwest have the opportunity to consider this information when determining its network design and expansion plans. This exchange of information would allow Qwest to include CLEC forecasted needs and would allow ample opportunity for Qwest to anticipate providing its services as required by law. *Id.* at pages 47 and 48.
56. The statements in the SGAT regarding the provisioning time for access to UDF create a concern for AT&T. Qwest sets forth unreasonably long time frames for access to UDF or specifies the lapse of a "reasonable" period of time. These provisions, at SGAT §§ 9.1.2.1, 9.7.2.10, 9.7.3.2, and 9.7.3.3, should be cleaned up to specify the time frames and to provide quicker turnaround. *Id.* at page 48.
57. On December 5, 2000, AT&T filed its Supplemental Comments for the Emerging Services workshop. *Exhibit 3-ATT-3*. AT&T states that, in the first session of Workshop 3, the participants engaged in extensive discussions regarding dark fiber and Qwest's SGAT proposals. Many issues concerning dark fiber remain outstanding. Qwest has not demonstrated that it has satisfied the requirements of § 271 with respect to dark fiber. *Id.* at page 3.
58. Section 9.7.2.2 of the SGAT implicated forecasts that AT&T suggested should be provided to Qwest by the CLEC in order to assess possible dark fiber requirements.

AT&T suggested in its initial comments that language be added to the SGAT that would permit a CLEC to submit a non-binding, good faith forecast for dark fiber to Qwest, and that Qwest would accept and use the forecast in good faith. Qwest has refused to accept such forecasts because it is of the opinion that it would be required to "build to them." Qwest had an alternate proposal for § 9.7.2.2 as follows:

CLEC may provide good faith, non-binding forecasts of UDF needs to Qwest. Qwest shall have no duty to consider or use such forecasts, nor shall a failure by Qwest to consider or use such forecasts give rise to any liability on the part of Qwest.

59. AT&T accepts this language with the following modifications. First, the provision should contain language that would prevent Qwest from sharing the forecast information with persons at Qwest who have marketing or related responsibilities. Second, the section should not exclude Qwest's liability for its negligent acts, namely, disregarding the CLEC forecasts. Finally, the section should state the consequences Qwest will face if it accepts the CLEC's forecasts (and thereby is informed of CLEC's anticipated needs for dark fiber), fails to use them "in good faith," and finds itself invoking on a regular basis the reclamation provisions in SGAT § 9.7 in order to satisfy its POLR obligation. *Id.* at pages 3 and 4.
60. Section 9.7.2.15 previously set forth certain requirements that, among other things, imposes on CLECs an obligation to ensure that they have "contact[ed] all owners of public and private Rights-of-Way to obtain their permission required to perform the necessary work to access the UDF." Qwest has since modified this provision to refer all issues regarding access to outside plant structures to the SGAT's remote collocation provisions. AT&T is fine with this change insofar as the parties have resolved all issues

regarding remote collocation. However, in light of AT&T's experiences regarding access to rights-of-way, it believes that the parties should discuss the proposal in greater detail. *Id.* at page 5.

61. In SGAT § 9.7.3.2 Qwest outlines its process for provisioning and ordering dark fiber, including the selection of routes set forth in § 9.7.3.2.3. AT&T notes that Qwest provided revisions of these and related sections that appear to clarify Qwest's ordering and provisioning requirements. However, AT&T requests that Qwest provide CLECs with a more specific outline of these processes--including process flow diagrams, if appropriate--which describe how a CLEC orders a given strand of UDF, what routes are selected, how intervening office selections are made, and so forth. *Id.* at pages 5 and 6.
62. AT&T is continuing to review the new provisioning intervals for UDF now set out in Exhibit C to the SGAT. *Id.* at page 6.
63. On October 10, 2000, WorldCom filed the Prefiled Direct Testimony of Thomas T. Priday regarding DSL and Emerging Services. *Exhibit 3-WCom-1*. Mr. Priday states that the purpose of his testimony is to provide WorldCom's positions on what is generally referred to as the provisioning of advanced services (including DSL services, line sharing, access to dark fiber, sub-loop, unbundling, and unbundled packet switching) that are relevant to Checklist Item No. 2 concerning the provisioning of unbundled network elements. Mr. Priday discusses WorldCom's general concerns with Qwest's compliance with this checklist item and recommends specific modifications to Qwest's SGAT. *Id.* at page 1.

64. Mr. Priday asserts that, throughout the relevant sections of the SGAT, the standards and technical specifications that apply to the provisioning of advanced services are as contained in Qwest's technical publications and Qwest's IRRG (now known as the wholesale Product Catalog). For example, in § 9.2.2.11, Qwest references its own Technical Reference Publication No. 77384. WorldCom wants assurance that Qwest's technical publications are consistent with or incorporate recognized industry standards. If any of the technical publications are not consistent with recognized industry standards, Qwest has an opportunity to alter the requirements for these services unilaterally through its technical publications. *Id.* at page 2.
65. WorldCom recognizes that Qwest uses technical publications as an efficient means to change policies for provisioning services for itself. However, it is WorldCom's experience that Qwest does not offer this more efficient methodology for making provisioning changes to CLECs. Qwest requires CLECs to enter into a very lengthy and burdensome amendment process to provision the new service. WorldCom requests clarity on the use of Qwest's technical publications to provision all industry standard services including new standards stated in final regulatory decisions. Inclusion of these new services in technical publications without the need for contract amendments, or a limitation of the use of these technical publications for Qwest, will ensure fair treatment for all parties. *Id.*
66. WorldCom expresses some specific concerns with certain sections of the dark fiber provisions in SGAT in § 9.7. Specifically, § 9.7.2.2 inappropriately establishes a reciprocal obligation on the part of the CLEC to provide dark fiber to the ILEC. The *UNE Remand Order* establishes dark fiber as a network element. This order does not



require the reciprocal provision of dark fiber from CLEC to ILEC. Therefore, § 9.7.2.2 should be stricken. *Id.* at pages 12 and 13.

67. Mr. Priday states that the *UNE Remand Order* does not support the establishment of arbitrary limitations on the amount of dark fiber that may be made available to CLECs. WorldCom is unaware of any legal requirement that limits the availability of dark fiber to CLEC of 25 percent of available dark fiber. Sections 9.7.2.4, 9.7.2.5, and 9.7.2.12 go beyond the FCC's requirements for reasonableness in limiting dark fiber available to CLECs. The only provision the FCC has made is that the limitation on dark fiber is related to a likely and foreseeable threat to an ILEC's ability to provide service as a carrier of last resort. *Id.* at page 13.

68. Since CLECs are not provided with the opportunity to reserve dark fiber for maintenance/maintenance spares, allowing the ILEC to do so creates an anticompetitive situation in which parity is not maintained. The ILEC's ability to safeguard its ability to meet its legal POLR obligation is supported by § 9.7.2.10; therefore, § 9.7.2.5(a) is unnecessary and excessive. *Id.*

69. WorldCom's witness also has concern with § 9.7.3.1 that requires CLEC to establish an ICDF at its collocation in order to obtain UDF. The ICDF creates all the same disadvantages and problems for the CLECs that a SPOT frame creates. Therefore, WorldCom objects to Qwest's requirement for establishment of an ICDF to obtain UDF. Thus, § 9.7.3.1 should be modified to eliminate this requirement.

70. WorldCom witness Priday filed Supplemental Testimony regarding Emerging Services on December 5, 2000. *Exhibit 3-WCom-2*. In this supplemental testimony, WorldCom

expresses concern with Qwest's requirement in SGAT §§ 9.7.2.12 and 9.7.3.1 that CLECs have established collocation at each end of the UDF and at the serving wire center if CLECs want Extended UDF. WorldCom does not know of a business reason for requiring such collocation. WorldCom recognizes that it would have to "light" the dark fiber, but this could be done through cross-connects at its fiber optic terminal. Accordingly, WorldCom recommends that these sections of the SGAT be modified to eliminate the requirement for collocations at both ends of the UDF. *Id.* at pages 3 and 4.

71. Covad filed its Initial Comments for the Emerging Services workshop on October 18, 2000. *Exhibit 3-Covad-1*. In its comments, Covad cites the *UNE Remand Order* at ¶ 326, which states that Qwest is required to provide access to unbundled dark fiber. Covad asserts that Qwest's SGAT proposal regarding dark fiber fails to meet the FCC requirement that Qwest provide dark fiber at any technically feasible point. *Id.* at page 16.
72. Covad does not go into detail in its initial comments but rather raises some general concerns with Qwest's offering for discussion at the workshop. *Id.* at page 16.
73. Covad states that the *UNE Remand Order* does not require CLECs to provide dark fiber to Qwest. SGAT § 9.7.2.2 requires this reciprocity and, therefore, should be deleted. *Id.* at page 16.
74. Access to dark fiber must also include access to unused frequencies on fiber optic systems using Wave Division Multiplexing technology. WDM allows a typical two-fiber system to have the carrying capacity of many fibers using non-WDM technology. For this reason, all unused frequencies on WDM systems should be considered the same as

dark fiber. Qwest should not be allowed to deny access to dark fiber unless both fiber and unused WDM frequencies are not available. Covad suggests these concepts be added to the SGAT language. *Id.* at pages 16 and 17.

75. Section 9.7.2.4 should be modified to allow ordering a single strand of dark fiber rather than requiring it to be ordered in pairs. New technologies are being developed which will allow both the transmission and receipt of signals of a fiber optic carrier system to use the same fiber. CLECs should have the opportunity to explore this option. *Id.* at page 17.
76. Any restriction on CLEC use of dark fiber must be reasonable and must relate to a likely and foreseeable threat to Qwest's ability to provide services as a carrier of last resort. *UNE Remand Order* at ¶ 352. There are SGAT sections that must be modified to adhere to this FCC limitation and not go beyond it. *Exhibit 3-Covad-1* at page 17.
77. Covad raises the following regarding Ms. Stewart's affidavit. *Exhibit 3-Qwest-1*:
  - The Unbundled Feeder Sub-Loop Provisioning Task List (*KAS Exhibit 12*) fails to mention any testing procedure.
  - The Unbundled Distribution Sub-Loop Provisioning Task List (*KAS Exhibit 13*) also fails to mention any testing procedure.
  - The AMSC/RCHC column of the Sub-Loop Maintenance Task Process (*KAS Exhibit 14, page 1*) does not include a call to the CLEC if trouble is NOT found in the distribution. It simply states that Qwest will close the ticket. Appropriate communication with the CLEC should be built into this process.

- The UDF-IOF, Qwest Central Office to Qwest Mid-Point structure, CEV, and so forth (*KAS Exhibit 15, page 2*) include a special construction requirement. This is an extra charge that is unnecessary. If it is entirely new and there is no FDP, the charge should be on a percentage basis. Customer premise installation should be special construction charged entirely to the CLEC requesting the installation since it is for its use only.
- Workflow #3 of the Unbundled Dark Fiber Provisioning (*KAS Exhibit 19, page 1*) fails to include a testing process after the technician completes the work, just notification of completion.
- There does not need to be a separate Collocate Fiber Distribution Panel. These are merely jack strips that the fiber is terminated onto so fiber jumpers can be placed like cross-connects. This can be done from a single panel (like the one that is labeled Qwest) rather than adding more expense and confusion.  
*Id.* at pages 17 and 18.

78. ICG filed its Comments on the SGAT provisions on Emerging Services on October 10, 2000. *Exhibit 3-ICG-1*. In these comments, ICG states that it has a number of concerns with Qwest's language and implementation of the SGAT provisions on dark fiber. Specifically, SGAT §§ 9.7.2.1 and 9.7.2.2 state that Qwest will provide CLECs with access to UDF, IOF, and UDF-Loop of "substantially the same quality as the fiber facilities that Qwest uses to provide service to its own end user customers within a reasonable time frame." ICG assumes that, by the statement "substantially the same quality," Qwest is attempting to meet the standard set forth by the FCC in the Texas and New York orders, that is, for a BOC to demonstrate that it is offering access to network

elements on a nondiscriminatory basis. The Texas § 271 Order at ¶ 21 states that, in demonstrating compliance with each item on the § 271 competitive checklist, the BOC must demonstrate that “it is currently furnishing, or is ready to furnish, the checklist item in quantities that competitors may reasonably demand and at an acceptable level of quality.” *Exhibit 3-ICG-1* at pages 12 and 13.

79. ICG is concerned that Qwest’s language reduces the standard that Qwest must meet to below that articulated by the FCC and does not meet the intent behind the standard, which is to provide access that is “equal (*i.e.*, substantially similar) to that provided by Qwest to itself, its customers, and its affiliates.” First, Qwest commits only to providing “substantially the same quality” as that provided to its own end user customers, but Qwest makes no mention of how that quality stands up to the quality provided to Qwest itself or Qwest’s affiliates, both of which are part of the FCC standard. Second, Qwest adds a caveat to its SGAT commitment, which is that access will be provided within a “reasonable time frame.” Significantly, Qwest does not maintain that the undefined “reasonable time frame” is “substantially the same” time frame that Qwest provides to its own end user customers, to itself, or to its affiliates. Yet the FCC’s standard clearly requires that the level of access provided, in terms of quality, accuracy, and timeliness be “equal (*i.e.*, substantially the same as) the level of access provided by Qwest to itself, its customers, or its affiliates.” ICG questions, therefore, whether the SGAT language provides adequate assurance to competing carriers that Qwest is ready and able to furnish access on a timely basis, in sufficient quantities, and at an acceptable level of quality, as required by both § 271 and the FCC’s UNE rules. *Id.* at pages 13 and 14.

80. Regarding § 9.7.2.5 ICG questions the language that limits Qwest's obligation to provide access to unbundled dark fiber under any circumstances. The SGAT provides that Qwest has no obligation to unbundle dark fiber used for maintenance or reserved for maintenance spare and states that Qwest will not reserve "more than 5 percent of the fibers in a sheath for maintenance or maintenance spare." Qwest will not unbundle dark fiber that has already been designated for use in an approved or pending job for itself or for another CLEC. Finally, Qwest will not unbundle dark fiber if it "demonstrates to the Commission by a preponderance of the evidence that such unbundling would create a likely and foreseeable threat to its ability to provide its services as required by law. . .," and it will have no obligation to provide access while it is making such a demonstration to the Commission. Similarly, in § 9.7.2.10, Qwest reserves for itself the ability to reclaim previously provided unbundled fiber if Qwest is "in jeopardy of meeting or maintaining control of its obligation to provide services as required by law." *Id.* at page 14.
81. In ICG's view, Qwest's use of the SGAT language to limit its obligation to provide unbundled dark fiber go beyond what is permissible under the FCC's rules and the *UNE Remand Order*. In the *UNE Remand Order*, the FCC addressed concerns raised by incumbent carriers that they had a special need for fiber reserves that would be adversely impacted by the availability of dark fiber as an unbundled element. The FCC held that such concerns are "exaggerated" because "the capacity of fiber can be increased many fold simply by increasing the power of the electronics that light it." *UNE Remand Order* at ¶ 198. Nevertheless, the FCC accommodated the ILECs' concerns about retaining sufficient dark fiber capacity, but only only to the extent that the ILEC can demonstrate

to the state commission that unbundling dark fiber threatens the ILEC's ability to provide service as a carrier of last resort. *Id.* at ¶ 352. If the ILEC can make such a demonstration, the state commission may only establish "reasonable limitations and technical parameters" for unbundling dark fiber. *Id.* The FCC expressly stated that, for a limitation on dark fiber to be reasonable, it must relate to a "likely and foreseeable threat to an incumbent LEC's ability to provide service as a carrier of last resort." *Id.* In providing that only "reasonable" limitations on access may be imposed, the FCC noted that "states should acknowledge that requesting carriers require regulatory certainty in order to implement their business plans." *Id.*

82. Qwest's SGAT language goes beyond the carefully tailored limitations permitted in the *UNE Remand Order*. Qwest's reference to "its ability to provide its services as required by law" appears to encompass more situations than those in which its ability to provide services as a carrier of last resort is impacted. Moreover, the FCC has held that, even if carriers of last resort services are affected, only "reasonable limitations" and "technical parameters" may be imposed. Qwest has interpreted the phrase "reasonable limitation" to relieve it completely of the unbundling obligation even during the time period when the Commission is considering (but has not yet decided) whether Qwest's claims have merit. Further, neither the SGAT nor Qwest's testimony details the procedure that will be followed by Qwest to provide the required demonstration to the Commission; neither is it specified whether notice to the public will be provided of Qwest's intent to make such a demonstration or whether interested parties will be able to comment on Qwest's demonstration. *Exhibit 3-ICG-1* at page 15.

83. Additionally, if the SGAT language in § 9.7.2.10 is accepted, Qwest will be able to reclaim previously provided unbundled dark fiber based solely on its own determination that it is in jeopardy of meeting its obligation to provide service. Such a unilateral determination can be made by Qwest without having to apply to the Commission for a ruling that reclamation is appropriate. Also, the “in jeopardy” standard, even though it is not defined precisely in the SGAT, clearly is not as rigorous as the “likely or foreseeable threat” standard that the FCC requires must be demonstrated to a state commission before limitations on access to unbundled dark fiber may be imposed. Allowing Qwest unilaterally to reclaim fiber, even upon “reasonable notification” (again a standard which is not defined in the SGAT), clearly does not provide CLECs with the “certainty” necessary to allow CLECs to implement their business plans, a factor recognized by the FCC as being critical to any reasonable limitation imposed by a state commission on access to unbundled dark fiber. *Id.* at page 16.
84. In addition to the above concerns, and in light of the FCC’s rejection in the *UNE Remand Order* of ILEC concerns about perceived threats to reserve capacity, ICG questions the basis for Qwest’s choice of five percent as being appropriate to be “reserved” for maintenance spare. Finally, ICG questions what is meant by a “pending order” on behalf of Qwest within the meaning of § 9.7.2.5(a). The language of this section, as currently written, appears to allow Qwest unlimited discretion to declare fiber already designated for a pending job on behalf of itself, thereby thwarting the efforts of competitive carriers to gain access to unbundled dark fiber as required by the FCC’s rules. *Id.* at page 16.
85. Sections 9.7.2.9, 9.7.2.12, and 9.7.3.1 and the limitations therein also cause ICG concern. Section 9.7.2.9 imposes a limitation on CLEC use of unbundled dark fiber by requiring



that the CLEC not use unbundled dark fiber as a substitute for special or switched services, except to the extent the CLEC provides “a significant amount of local exchange traffic” to its end users over the unbundled dark fiber. ICG is confused by Qwest’s use of the phrase “as set forth by the FCC” in SGAT § 9.7.2.9. To ICG’s knowledge, the FCC has only imposed such a usage restriction (and then only as an interim measure) on requesting carriers’ use of the Enhanced Extended Link, which is a combination of the loop and transport network elements. *Id.* at pages 16 and 17.

86. The language of the Act, the FCC’s rules, and the *UNE Remand Order*, *Supplemental Order*, and *Supplemental Order Clarification* is clear. Qwest’s extension of the limited, interim usage restriction imposed by the FCC only on existing loop/transport combinations to any and all use of unbundled dark fiber as a network element puzzles ICG. In ICG’s view, the SGAT language clearly violates the FCC’s rules and the Act, and must be deleted from the SGAT. Even more importantly, Qwest’s inclusion of such language in the SGAT demonstrates that Qwest is not prepared to provide nondiscriminatory access to unbundled dark fiber as a network element in compliance with the FCC rules and therefore demonstrates that Qwest is not in compliance with the unbundling checklist requirements of § 271 of the Act. *Id.* at pages 17 and 18.

87. ICG is similarly concerned about the requirements in §§ 9.7.2.12 and 9.7.3.1 that the requesting CLEC must have collocation at both ends of the unbundled dark fiber being requested. In the *UNE Remand Order* and the *Supplemental Order Clarification*, the FCC found a collocation requirement to be reasonable, as an interim measure, only as a condition for access to EELs, or already combined loop/transport combinations. However, Qwest appears to be extending that limited condition to all requests for access

to unbundled dark fiber as an unbundled element, an extension that is not contemplated in the FCC rules or decisions. *Id.* at page 18.

#### 4. Qwest's Response

88. On October 25, 2000, Qwest witness Karen A. Stewart filed a rebuttal affidavit to reply to the testimony of numerous parties concerning emerging services now available to CLECs in Colorado, including access to dark fiber. *Exhibit 3-Qwest-2*.
89. ICG questioned the modifier “substantially” when applied to the same quality in the description of dark fiber in SGAT § 9.7.2.1. In the *Bell Atlantic New York decision*, the FCC established that equal access and “substantially the same as” are interchangeable terms when describing a BOC’s obligation to provide access to a network element. Qwest recommends retaining the word “substantially” in light of the FCC’s identification that equal access to UNEs may not be identical access to UNEs. This is consistent with the parties’ agreement reached in the resale docket where the word “substantially” was retained. To address ICG concerns about quality, Qwest will add a general statement regarding quality for all UNEs in the SGAT § 9.1.2 general section. *Id.* at pages 34-35.
90. Both AT&T and WorldCom recommend that defined installation intervals be established for dark fiber. WorldCom recommended the same interval as 2-wire and 4-wire unbundled loops. Qwest does have defined installation intervals for dark fiber interoffice and loop facilities. The installation interval is 10 days for an Initial Records Inquiry, and the installation interval is 20 business days once Qwest receives the order for any identified dark fiber that terminates at a Qwest wire center or end user premises. Should a CLEC request access to dark fiber at a point in the Qwest network other than a wire

center or end user premise, Qwest has established a 20-day period to provide a feasibility study and quote. Given the extremely limited demand, and various access points that might be requested, Qwest has established an Individual Case Basis (ICB) installation period. Qwest cannot accept the WorldCom request that Qwest install dark fiber in the same five-day installation interval as unbundled two wire loops. Qwest believes reasonable installation intervals based on the industry benchmark have been established by SWBT's approved § 271 application. SWBT has a 30-business-day interval to install dark fiber once the dark fiber availability has been confirmed. *Id.* at pages 35-36.

91. Both AT&T and WorldCom recommend that the reciprocal provision of dark fiber in § 9.7.2.2 by the CLEC to the ILEC be eliminated in the SGAT. Qwest accepts this recommendation and proposes that § 9.7.2.2 be removed and labeled "Reserved for future use." *Id.* at page 36.
92. AT&T, ICG, and WorldCom believe any limitations on the amount of dark fiber available to the CLECs must be reasonable and must relate to a likely and foreseeable threat to Qwest's ability to provide service as a carrier of last resort. Both AT&T and WorldCom made several suggestions to clarify on what basis Qwest may deny a request to unbundle dark fiber or reclaim dark fiber to meet its legal obligations. AT&T and WorldCom made numerous recommendations regarding changes to the SGAT sections that clarify (a) Qwest's ability to limit the amount of dark fiber in a single route a CLEC can use and (b) under what circumstances can Qwest reclaim that fiber from the CLEC. First, Qwest agrees that the circumstances in which it can reclaim dark fiber are present only when it is in danger of not meeting its legal obligations to provide service. That

language is preferable to the term carrier of last resort because, in the competitive environment of the future, Qwest may retain legal obligations to provide certain services to certain end user customers even if no longer deemed to be the carrier of last resort. Second, Qwest agrees to the burden of demonstrating to the Commission that Qwest has no alternative but to reclaim the unbundled dark fiber to meet its legal obligations to serve. Third, Qwest believes that a number of parties participating in this workshop have agreed that it makes sense to limit the volume of dark fiber an individual CLEC can “tie-up” in a single route. Qwest believes that the efficient use of dark fiber, and allowing more than one CLEC to have access to dark fiber on a route, is in the best interest of the industry as a whole. Qwest proposes SGAT language on the relevant sections. *Id.* at pages 36-38.

93. WorldCom stated that CLECs are not provided with an opportunity to reserve dark fiber for maintenance/maintenance spares. This is incorrect. Qwest allows CLECs to determine their needs for dark fiber, to include maintenance spares, and (subject to reasonable limitations as identified above) to request access to the required number of dark fiber strands. Just as Qwest bears the cost of maintaining its own maintenance spares, so should CLECs bear the cost of inventorying the level of maintenance spares they believe is appropriate for their network design and the level of service offered to their end users. *Id.* at page 39.
94. WorldCom requested removal of the requirement for an ICDF when a CLEC requests access to dark fiber. Qwest accepts this request and has modified § 9.7.3.1 to reflect that when the CLEC has established network demarcation points as part of a collocation application, a specific ICDF will not be required. *Id.* at page 39.

95. AT&T requested that unbundled dark fiber be available between a Qwest wire center and a CLEC wire center. AT&T identified that this change would require the elimination of collocation on the CLEC end of the dark fiber. Qwest agrees to unbundle dark fiber that may exist between a Qwest wire center and a CLEC wire center. In earlier discussions, many of the parties participating in this workshop agreed to identify this as extended unbundled dark fiber facilities. Qwest will work with the parties to develop appropriate SGAT changes. Qwest has eliminated the collocation requirement on the CLEC end of the E-UDF. Qwest acknowledges that CLEC use of the term E-UDF does not mean that any CLEC agrees that this segment requires different cost or rate structures. All parties reserve their current positions for this and similar UDF/UDIT pricing issues. *Id.* at pages 39-40.
96. AT&T requested clarification that the limitation to provide access to “existing Dark Fiber” in § 9.7.2.3 cannot be interpreted to imply that new dark fiber installed after the effective date of the SGAT would not be considered “existing.” Qwest clarifies that its intent in using the word “existing” is to identify dark fibers that are existing, *i.e.*, deployed and available in the Qwest network at the time the dark fiber Initial Records Inquiry is received by Qwest. The term “existing” does not have a relationship to the amount or location of dark fiber facilities “existing” on the effective date of the Colorado SGAT. Qwest believes the parties have agreed to replace “existing” with “deployed” in the SGAT. *Id.* at page 40.
97. AT&T recommended changes to § 9.7.2.11 to allow for combinations of dark fiber with another UNE or CLEC facilities. Qwest accepts this recommendation. Qwest will provide CLECs with access to UNE combinations, whether they be UNEs Qwest

ordinarily combines, UNEs Qwest does not ordinarily combine, or combinations of Qwest UNEs with CLEC UNEs. To the extent that the *UNE Remand Order* has identified dark fiber as a UNE, Qwest will make combinations of dark fiber available upon request. Qwest does not normally make combinations of dark fiber in its network. The CLEC would be responsible for all design and interoperability concerns with a dark fiber combination. Qwest proposes to delete the existing § 9.7.2.11 and to label it “Reserved for future use.” *Id.* at page 41.

98. AT&T objected to § 9.7.2.15 because it can be read to require CLECs to obtain third-party permission, license, or authority to access rights-of-way. Qwest does not agree to a modification to § 9.7.2.15. Qwest agrees with AT&T that the parties can more productively discuss this section in the context of Pole, Duct, and Rights-of-Way issues that have already been resolved. *Id.* at page 42.
99. AT&T requested that § 9.7.2.16 be modified to reflect that, when a CLEC returns dark fiber, it may not be in its “original condition” due to reasonable “wear and tear.” Qwest accepts this recommendation and proposes to remove any reference to original condition. Qwest proposes language revisions. *Id.* at page 42.
100. In § 9.7.3.2, AT&T believes Qwest should provide notification of the available fiber and all the potential routes that can be used. Qwest does not agree to provide notification of all theoretical available routes. Qwest agrees to evaluate all economically viable routes identified in the Trunk Inventory Record Keeping System during the Initial Records Inquiry. In most cases, Qwest does not believe there will be an extensive number of routes available. However, Qwest proposes to reserve the right to limit the route

information to five routes in the unlikely event there is an extensive number that would require additional time and work to review. Qwest believes that five routes will cover most situations. Therefore, for dark fiber inquiries, should more than one route be identified in TIRKS, Qwest will provide the CLEC with information on up to five routes for any spare fiber available between the CLEC specified end locations. *Id.* at pages 42-43.

101. AT&T proposed that Qwest accept good faith, non-binding forecasts of transport needs from CLECs for Qwest's use in determining its network design and expansion requirements. Qwest does not accept the addition of an SGAT obligation to include a CLEC's future interoffice transport requirements in its plans to build new routes or to expand capacity on existing interoffice routes. The FCC clearly affirmed its limitation that a LEC is only required to unbundle existing services and is not required to construct new facilities. In the SGAT, Qwest limits requests for forecasts to situations in which a forecast is required to provide interconnection or access to UNEs that already exist in its network. *Id.* at pages 43-44.

## **5. Principal Workshop Discussions and Resolution**

102. Workshop 3 technical discussions on Emerging Services (access to dark fiber, sub-loops, line sharing, and packet switching) occurred during 10 separate sessions held on October 31, 2000; November 1, 2, and 3, 2000; December 12, 13, 14, and 15, 2000; and April 19 and 20, 2001.
103. A detailed summary of the discussions related to access to dark fiber can be found in the Colorado Issues Log included at Appendix A of this report and will not be repeated here

for the sake of brevity. The discussions were protracted and exhaustive, and participants were given ample opportunity to flesh out their respective issues and to have them fully discussed.

104. During Workshop 3, the issues raised by participants in testimony or comments regarding the provisions of Qwest's SGAT were discussed and fully addressed. Except for the disputed issues that reached impasse, the issues were resolved by consensus among the participants. This consensus was often reached by Qwest's agreement to alter the SGAT provisions as suggested by the participants, based upon the merits of the issues raised. In other cases, the participants accepted Qwest's rationale and justification for not agreeing to proposed changes.
105. With the exception of the impasse issues that are identified in succeeding paragraphs, there are no remaining disputes among participants regarding the dark fiber provisions of Qwest's SGAT.
106. The remaining portion of this section of the report describes the disputed issues concerning dark fiber that could not be resolved by consensus during Workshop 3 and which reached impasse. The Commission will consider these issues in accordance with the dispute resolution process agreed to by the participants and ordered by the Commission for this proceeding. The results of the resolution of the impasse issues by the Commission will be presented in Volume IIIA in this series of Staff reports. The Commission's decisions in resolving the impasse issues will specify what the Commission believes is required of Qwest to achieve compliance with the requirements of the Act and the FCC with regard to the impasse issues.



107. The following is a brief description of the impasse issues related to dark fiber and is not intended to reiterate fully the positions of the parties with respect to these issues. The parties' complete briefs are available to the Commission for its consideration in resolving the impasse issues.

## **6. Dark Fiber Impasse Issues:**

108. **Issue DF-15(1 and 2). Whether Qwest Corporation's affiliates, including its parent corporation, are required to comply with the unbundling obligations of §§ 251 and 252 of the Act.** AT&T and Covad assert that Qwest has an obligation to unbundle the dark fiber facilities owned by the companies affiliated with Qwest because Qwest and its affiliates are "successors and assigns" of U S WEST and are therefore ILECs as defined under § 251(h) of the Act. Qwest argues that there is no legal basis for such a position.
109. **Issue DF-15(3). Whether Qwest is obligated to unbundle dark fiber that it does not own in meet-point arrangements and is required to unbundle dark fiber that is included in a joint-build arrangement that Qwest enters into with a third party.** Qwest argues that so long as the CLEC has an interconnection agreement allowing access to dark fiber with the other local exchange carrier, the SGAT provisions that allow a CLEC access to dark fiber that is part of a meet-point arrangement between Qwest and another local exchange carrier satisfies its legal obligation under the Act. AT&T claims that, where a meet-point arrangement gives Qwest control or provides Qwest a right-of-way on a third-party's network, Qwest must give CLECs the same access. In joint-build arrangements, AT&T argues that CLECs must have nondiscriminatory access to those arrangements with third parties, particularly in rural areas. Qwest counters that fiber

owned by a third party is not subject to unbundling obligations and that CLECs must execute their own arrangements with the third party.

110. **Issue DF-16. Whether Qwest internal technical publications, documents, and standards are consistent with the SGAT and are required to be subject to the Co-Provider Industry Change Management Process.** AT&T and WorldCom argue that the SGAT should contain a provision that, where there is a conflict between the SGAT and any internal Qwest document referenced in the SGAT, the terms of the SGAT would supersede and prevail. They also contend that such internal documents should be subject to CICMP. Qwest did not address these issues in its brief.<sup>3</sup>
111. **Issue DF-20. At what points on Qwest's fiber facilities may CLECs access unbundled dark fiber?** WorldCom argues that the SGAT should allow CLECs to connect to dark fiber at any mutually convenient point, including at a customer premise, remote terminal, central office, or in an immediate intermediate manhole, vault, or cabinet. Qwest argues that the FCC clearly states where access to transport and to loops is, and is not, required. Sub-loop access is required at "accessible terminals" and transport access is not provided for at outside terminals. Moreover, there are no outside accessible terminals in Qwest's dark fiber transport network.
112. **Issue DF-4(c). Whether it is appropriate for Qwest to apply the FCC's EEL restriction (a significant amount of local exchange traffic) to unbundled dark fiber.**

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<sup>3</sup> In a subsequent workshop, Qwest added § 2.3 to its SGAT which provides as follows: In cases of conflict between Qwest's wholesale Product Catalog (formerly IRRG), product descriptions, methods and procedures, or a technical publication, and this Agreement, the rates, terms and conditions of this Agreement shall prevail over such PCAT product descriptions, methods and procedures, or a technical publication. See 3<sup>rd</sup> Revision to Qwest SGAT dated June 29, 2001.

Qwest maintains that it is permitted to impose the requirement of a significant amount of local exchange traffic upon CLECs that use unbundled dark fiber as a substitute for special or switched access services. Further, Qwest argues that unbundled dark fiber is a subcategory of both the loop UNE and the dedicated transport UNE and that it should receive the same treatment as an EEL. WorldCom and AT&T assert that dark fiber is a UNE, as distinguished from the EEL combination and, therefore, the EEL restrictions should not apply. Further, it would be technically impossible to apply the EEL restriction since EELs apply to a single customer, while dark fiber is typically used for multiple customers.

## **7. Staff Compliance Assessment**

113. The technical discussions held during Workshop 3 concerning nondiscriminatory access to dark fiber were exhaustive and thorough, with participants having ample opportunity to raise their issues and to have them thoroughly discussed. Additionally, extensive testimony, comments, and exhibits were presented to add to the record of this investigatory proceeding.
114. The primary focus of the workshop was to address the terms and conditions of Qwest's SGAT to assess the adequacy of Qwest's concrete and specific legal obligation to provide nondiscriminatory access to dark fiber in accordance with the requirements of the Act and the FCC. The workshop discussions provided Staff the opportunity to hear in detail the positions of the participants regarding the multitude of issues that arose and to evaluate the appropriateness of compromises that were crafted to resolve disagreements

by consensus of the participants. The terms and conditions of Qwest's SGAT were thoroughly and rigorously reviewed.

115. For the previously described issues in dispute that reached impasse, briefs were filed by participants. The Commission will consider these briefs and other information as may be requested by the Commission. The Commission will resolve the impasse issues through the dispute resolution process ordered by the Commission in this docket. The Commission's decisions to resolve the issues in dispute will be incorporated into Volume IIIA in this series of Staff reports.
116. Subject to the Commission's resolution of the issues in dispute (which will reveal the Commission's decision regarding what is required for compliance regarding these issues), a demonstration that those decisions have been implemented, and a demonstration that Qwest has incorporated into the SGAT the language agreed to during the workshop, Staff's assessment is that the terms and conditions of Qwest's SGAT otherwise meet the requirements of the Act and the FCC with regard to the provision of nondiscriminatory access to dark fiber by competitors. This assessment is based upon the testimony, comments, exhibits, and workshop discussions.
117. Except for the impasse issues, the terms and conditions of Qwest's SGAT regarding access to dark fiber are not otherwise disputed by participants.
118. The determination of whether the SGAT rates for unbundled dark fiber are just and reasonable will be made by the Commission in the companion cost docket proceeding (Docket No. 99A-577T).

119. Qwest must also demonstrate that it currently furnishes, or is ready to furnish, access to dark fiber in quantities that competitors may reasonably demand and at an acceptable level of quality. To assess Qwest's current performance, this Commission will rely on the results of the ROC OSS Test and other evidence, including Colorado-specific commercial usage experience of competitors, that may be brought to the Commission's attention.
120. Staff will provide its assessment of Qwest's actual performance with respect to unbundled network elements at such time as the ROC OSS Test results and any other evidence are incorporated into this proceeding.

## **B. SUB-LOOP**

### **1. FCC Requirements**

121. Under § 271(c)(2)(B)(ii) of the Act of 1996, ILECs must provide nondiscriminatory access to network elements in accordance with the requirements of §§ 251(c)(3) and 252(d)(1). Section 251(c)(3) of the Act requires, in turn, that ILECs provide access to UNEs "on rates, terms and conditions that are just, reasonable and nondiscriminatory." In the *UNE Remand Order*, the FCC characterized the specific market-opening mechanisms of § 251 of the Act, including the unbundling requirements, as "central to the new statutory scheme" of the Act and as designed "generally to reduce inherent economic and operational advantages possessed by incumbent local exchange carriers." *UNE Remand Order* ¶ 3. The FCC also recognized that, "[d]espite the development of competition in some markets, incumbents still control the vast majority of the facilities that comprise the local telecommunications network, giving them advantages of

economies of scale and scope not enjoyed by competitive LECs." *Id.* at ¶ 13. Further, the FCC noted that its unbundling rules are "designed to facilitate the rapid and efficient deployment of all telecommunications services, including advanced services." *Id.* at ¶ 14.

122. The access to emerging services requirements are the result of the *UNE Remand Order* and the *Line Sharing Order*. The *Line Sharing Order* added the requirement that ILECs provide access to the high frequency portion of the loop, and the *UNE Remand Order* added the requirements for unbundling, access to dark fiber, and limited access to unbundled packet switching.
123. In the *UNE Remand Order*, the FCC adopted a broad definition of unbundled sub-loops to provide requesting carriers "maximum flexibility to interconnect with the ILEC network at technically feasible points in order to allow competitors to serve customers efficiently." ¶ 223. The *UNE Remand Order* and the FCC rules at § 51.319(a) define the sub-loop element as follows:

Sub-loop. The sub-loop network element is defined as any portion of the loop plant that is technically feasible to access at terminals in the incumbent LEC's outside plant, including inside wire. An accessible terminal is any point on the loop where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within. Such points include, but are not limited to, the pole or pedestal, the network interface device, the minimum point of entry, the single point of interconnection, the main distribution frame, the remote terminal, and the feeder/distribution interface.

124. The requirement for ILECs to provide access to sub-loops was effective 120 days after the *UNE Remand Order* was published in the *Federal Register*, or as of May 18, 2000.

## 2. Qwest's Position

125. On September 1, 2000, Qwest witness Karen A. Stewart filed an affidavit concerning emerging services now available to CLECs in Colorado, including access to sub-loop unbundling. *Exhibit 3-Qwest-1*.
126. Qwest's Colorado SGAT contains an explicit sub-loop offering and creates a binding legal obligation for Qwest to provide CLECs access to sub-loops in Colorado. Section 9.3.1.1 of the SGAT states: "A Subloop is defined as any portion of the Loop that it is technically feasible to access at terminals in Qwest's outside plant," *i.e.*, an accessible terminal, pole, pedestal, Feeder Distribution Interface (FDI) or Minimum Point of Entry (MPOE) including inside wire owned by Qwest. SGAT § 9.3.1.1 continues, "An accessible terminal is any point on the Loop where technicians can access the wire or fiber within the cable without removing a splice case [and/or digging up or trenching underground] to reach the wire within." Consistent with the requirements of the *UNE Remand Order*, Qwest clearly has a legally binding commitment to provide unbundled access to sub-loops. Qwest further defines the specifications, interfaces, and parameters associated with sub-loops in Technical Reference Publication No. 77405. In addition, the technical publication provides CLECs with product information, rates, and availability. CLECs can access the IRRG at URL: <http://www.uswest.com/wholesale/>. As of August 1, 2000, Qwest had not yet provisioned sub-loops in Colorado. However, Qwest was in the process of installing Field Connection Points to be used to provision sub-loops. *Id.* at pages 20-22.

127. A sub-loop is defined as any portion of the loop that it is technically feasible to access at one of Qwest's terminals in its outside plant network. When a CLEC is provided access to a portion of the loop, this process is referred to as sub-loop unbundling. The typical loop consists of two segments or portions, the feeder segment, and the distribution segment. The feeder extends from the central office network interface (typically an MDF or COSMIC frame) to a FDI. The distribution segment of the loop extends from the FDI to the end user location. The two segments are cross-connected in the field at the FDI. Each portion of the loop, when unbundled into sub-loop elements, becomes an individual UNE. The Qwest sub-loop product offering identifies these two typical segments as the DS1 Capable Unbundled Feeder Sub-loop and the Two-Wire Unbundled Distribution Sub-loop. Moreover, the SGAT clearly makes these two types of standard sub-loops available to CLECs in Colorado. *Id.* at pages 22-23.
128. A CLEC can order access to specific unbundled sub-loop once a CLEC has installed a FCP at the FDI or other technically feasible access point. The FCP provides a demarcation point for the termination of the Qwest-provided sub-loop and the necessary cross-connections so the sub-loop may connect with the CLEC-provided facilities. Moreover, the FCP network design allows multiple CLECs to access the same FDI or other technically feasible access point. The FCP is a splice point that connects Qwest's network to a CLEC's network. This is done by splicing CLEC-owned cables in 100-pair increments to a Qwest cable that is, in turn, connected to terminal blocks in the FDI or other technically feasible access point. The terminal blocks in the FDI or other technically feasible access point provide CLECs with access to the UFL and UDL. *Id.* at pages 23-24.



129. With the expected demand for sub-loop unbundling, Qwest may increase the size of existing FDIs to accommodate CLEC requests for additional cross-connect blocks. Thus, if necessary, Qwest will retrofit an existing 2,700-pair FDI to an ultimate size of 5,400-pair, which will allow for a maximum of three additional 900-pair cables and cross-connect blocks to be placed in the FDI. With receipt of the first order for sub-loop unbundling, Qwest will place a 900-pair cable and accompanying cross-connect blocks in the FDI and stub the cable to a pedestal. Placing a cable at the pedestal provides the CLEC with a splice point to attach its cable. CLECs will have access to the back-side of the FDI to make their cross-connects. When a CLEC places an order that requires turning up service, Qwest will make the appropriate cross-connect on its side of the FDI or other appropriate cross-connect location. It will provide the CLEC with a specifically designated cross-connect, and the CLEC can make its cross-connect on its side of the FDI or other appropriate cross-connect location. *Id.* at pages 24-25.
130. A standard physical demarcation process provides Qwest and CLECs with a common interface location for maintenance and repair. The FCP is not a unique architecture in that a similar function is performed by the Point of Interface manhole in central office collocation arrangements. In the collocation example, CLECs bring their own facilities to the POI manhole where Qwest splices Qwest facilities directly into the CLEC facilities. Qwest then terminates its facilities to an IDF for access to UNEs. The splice in the POI manhole also serves as a physical demarcation between Qwest facilities and CLEC facilities. The splice point location is an engineering decision based upon space and right-of-way constraints and local codes. Examples of possible FCP locations include a pedestal near the FDI or other technically feasible access point and the splice

chamber of the FDI or other technically feasible point. To the extent a CLEC wants access to unbundled sub-loop other than the two-wire Unbundled Distribution Sub-loop or the DS1 Capable Unbundled Feeder Sub-loop, such access is available through the bona fide request process identified in the SGAT. In addition, the BFR process is also available if a CLEC desires to access sub-loops in some other manner than the use of an FCP. Qwest will continue to develop standard options as demand occurs. *Id.* at pages 25-26.

131. A CLEC may submit orders for sub-loops after the FCP is in place. To place an FCP, the CLEC will first submit a Field Connection Point Request Form to its Qwest Account Representative. Upon receipt of the Field Connection Point Request Form, Qwest will initiate a feasibility study and develop an FCP quote. Within 30 calendar days of receipt of a completed Field Connection Point Request Form, Qwest will notify the CLEC if a location is technically feasible and develop a quote. The feasibility study and quote will be valid for 30 calendar days from feasibility and quote notification. Qwest will develop quotes for FCPs based on the work to be performed in connection with the Field Connection Point Request Form submitted by the CLEC. Qwest will recover the cost of FCPs through individual case basis non-recurring charges. The non-recurring charges will cover the cost of augmenting the FDI location or other technically feasible access point so that three CLECs can interconnect at that point. If the CLEC is the first provider in the FCP, it will pay the quoted price. If the CLEC is the second provider in the FCP, it will pay the initial CLEC 50 percent of the price quoted to that CLEC. If the CLEC is the third CLEC in the FCP, it will pay each of the original two CLECs 17 percent of the price quoted to those CLECs. *Id.* at pages 26-27.

132. If the CLEC accepts the feasibility study and quote, Qwest will construct the FCP within 120 calendar days of receipt of payment from the initial CLEC requesting the FCP. Activities during this 120-day period include site visits by the field engineer, application for all appropriate permits, acquisition of rights-of-way, development of detailed engineering design, procurement of materials, construction resource scheduling, and installation. This length of time is necessary because, for example, permits can take 90 days or more to obtain depending upon the circumstances. After construction is complete, Qwest will notify the CLEC of the termination locations that can be used for ordering sub-loops. The CLEC can then use this termination information on the LSR for sub-loops. In addition, the CLEC will identify sub-loop elements by NC/NCI codes. After the construction of the FCP, Qwest will provision Two-Wire Unbundled Feeder Sub-loops in the same standard interval as DS1 Capable Loops. Currently, that installation interval is five days in high-density wire centers and eight days in low-density wire centers. Qwest will provision Two-Wire Unbundled Distribution Sub-loops in the same standard interval as two-wire analog unbundled loops. Currently, that installation interval is five days in high-density wire centers and eight days in low-density wire centers. *Id.* at pages 27-28.
133. Qwest will maintain all the FCPs and unbundled sub-loop facilities. The CLEC is responsible for maintaining all of its cable, connections, equipment, and network elements connected to the Qwest network. The repair process flow is different for the DS1 Capable Unbundled Feeder Loop and the Two-Wire Unbundled Distribution Loop. Qwest will use outside field technicians to test and repair problems in the Two-Wire Unbundled Distribution Loop. In the case of the DS1 Capable Unbundled Feeder Loop,

Qwest central office technicians will determine the problem with the feeder sub-loop and make any necessary repairs. *Id.* at pages 28-29.

134. The ROC TAG has determined there will be no additional measurements for sub-loops. The ROC TAG is considering which existing performance measurements will be further disaggregated to include product level reporting for sub-loops. However, nothing has been done to exclude the sub-loop LSRs from the general Performance Indicator Definitions. For example, PID PO-4 (LSRs rejected) would include information on sub-loop LSRs rejected for any reason. *Id.* at page 29.

### 3. Competitors' Positions

135. In its Initial Comments (*Exhibit 3-ATT-1*), AT&T addressed its concerns with Qwest's sub-loop unbundling and stated AT&T's interpretation of the FCC requirements. The FCC has concluded that incumbent LECs must provide unbundled access to sub-loops where technically feasible. *BANY Order* at ¶ 44. The FCC further states:

We define sub-loops as portions of the loop that can be accessed at terminals in the incumbent's outside plant. An accessible terminal is a point on the loop where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within.

136. Qwest must provide sub-loop unbundling under rates, terms, and conditions that are nondiscriminatory. To fulfill this obligation, Qwest must address the following sub-loop elements and points of interface in its SGAT and in its operational processes and procedures:

- a. Distribution facilities
- b. Feeder facilities

- c. Feeder Distribution Interface
- d. Minimum Point of Entry
- e. Network Interface Device
- f. Riser Cable in Multistory Buildings
- g. Inside Wire
- h. Peripheral Distribution Facilities
- i. Wire Closets
- j. Digital Loop Carrier Cabinets
- k. Single Point of Interface
- l. Central Office Terminal, COSMIC, or MDF
- m. Pole or Pedestal
- n. And any other technically feasible element or point of interface.

*Exhibit 3-ATT-1* at pages 3 and 4.

137. Qwest must further demonstrate that access is available at all technically feasible speeds, with technically feasible media including:

- a. Two-wire copper
- b. Two-wire non-loaded copper
- c. Four-wire copper
- d. DS-1 carrier
- e. DS-3 carrier
- f. OC-3 through OC-xx SONET over fiber.

*Id.* at page 4.

138. In its SGAT and IRRG, Qwest has not adequately covered any of these sub-loop elements, access points, or interface speeds and media and has not even addressed many of them. *Id.* at page 4.

139. AT&T and other CLECs will need to lease Qwest sub-loop elements in a variety of locations and under a variety of conditions. Such access to sub-loop elements is needed

to support facilities-based market entry using hybrid fiber-coax HFC infrastructure, wireless infrastructure, and traditional telephony infrastructure. One of the location types where sub-loop access is critical is in the access to and provisioning of Multiple Tenant Environments and campus type environments. *Id.* at page 5

140. Qwest uses a wide variety of equipment types, configurations, and media in its local network. To address adequately all configurations that a CLEC may need to access, Qwest must present both general and specific obligations to cover the CLEC's range of sub-loop needs. Qwest witness Karen Stewart, in her affidavit (*Exhibit 3-Qwest-1*), states that the CLEC must utilize the BFR process to access any of the sub-loop elements or access points that are not currently provided as "products" by Qwest. The FCC has identified sub-loop as an unbundled element and has defined its scope and application. *UNE Remand Order* at ¶¶ 205-229. The CLEC should not be required to go through the laborious BFR procedure to access sub-loop elements. Existing sub-loop elements and sub-loop access points, in the current Qwest loop plant, should be provided through the SGAT and in interconnection agreements without resorting to the BFR process. It is not sufficient, as Ms. Stewart suggests, for Qwest to wait until demand arises to provide all of the necessary sub-loop elements and access points. *Exhibit 3-ATT-1* at page 5

141. Sub-loop elements and sub-loop access points are discussed together because many situations arise in which a sub-loop access point can be a sub-loop element. For instance, the FDI can be an access point for feeder facilities. The FDI also can be a sub-loop element when the FDI is a DLC device that the CLEC may need to lease. *Exhibit KW-1* represents the various sub-loop elements. It should be noted that these elements and interface points all are shown on a single loop. This is rarely, if ever, the case. In most

circumstances, many or most of these elements and interface points will not exist on a single loop. Many residential loops, for example, are provided over copper wire from the central office to a simple residential NID. The FDI, in this case, may be no more than a basic interface junction on a pole where multiple copper distribution “drops” are aggregated together onto the feeder back to the central office. *Exhibit 3-ATT-1* at page 6.

142. Feeder facilities roughly are defined as the local network facilities that run from the MDF or COSMIC in the central office to the FDI in a field location. Feeder facilities physically may be comprised of copper, coaxial cable, or fiber media. Copper media may support basic service or digital-ready basic service where load coils and bridge taps have been removed. Copper or coaxial media, with associated electronics, may provide DS-0, DS-1, or DS-3 capability. Fiber, with associated electronics, may provide DS-0, DS-1, or DS-3 capability and may provide SONET capability at a prescribed speed. These “fiber to the neighborhood” facilities must be made available to the CLEC. Qwest must provide access to existing types of feeder facilities and must allow new types of feeder facilities to be accessed as they are deployed at technically feasible locations. *Id.* at pages 6 and 7.

143. Distribution facilities generally can be defined as the facilities that run from the FDI to the NID at the customer location. This general definition is complicated in MTE or campus type configurations where distribution facilities may terminate at intermediate points. Such intermediate points are described using several different terms, including MPOE, garden terminals, and wiring closets. Distribution facilities are typically copper but may be provided by other media. Until relatively recently, it was thought impossible to carry signals other than simple voice grade 300-3000 Hz on distribution facilities

longer than a few hundred yards. Available technologies are now able to carry high-speed data signals on clean copper distribution facilities for an increasing number of miles. If Qwest places fiber in the distribution plane (“fiber to the curb”), CLECs should have access to those facilities. Qwest must provide access to existing types of distribution facilities and must allow new types of distribution facilities to be accessed as they are deployed at technically feasible locations. *Id.* at page 7.

144. The FDI is the location where feeder facilities are joined to distribution facilities in the local network. The FDI may be simple (as is the case with an all-copper loop) or very complex (as is the case if DLC is used for pair gain or digital services in the feeder). The FDI is a major point of access to the feeder and distribution sub-loop elements and, as such, must be provided where technically feasible. The FDI may be located in a cabinet, hut, CEV, or other structure or location. It is critical that CLECs have nondiscriminatory access to remote terminals at the FDI or any other location where they are used in association with loops. Accordingly, Qwest must provide access to distribution facilities and feeder facilities at any FDI where technically feasible. *Id.* at pages 7 and 8.
145. The FDI may itself be a sub-loop element when multiplexing or advanced service capabilities are involved. DLC terminals of varying types should be made available as sub-loop elements. The CLEC may need to lease a portion of the DLC terminal to aid in providing advanced services such as ISDN. The FDI also may contain equipment for providing DSL capabilities. DSL equipment may consist of a Digital Subscriber Line Access Module or other equipment that utilizes high frequencies over short loops to provide high-speed data. Qwest has been conducting trials and initial deployment of Next Generation DSL. This capability allows high-speed data as well as television



signals to be transmitted over the loop. In NGDSL, a sophisticated terminal is put in the neighborhood at the FDI. The feeder is provided over fiber. Use of these new technologies should be included in the SGAT. Accordingly, Qwest must provide access to the FDI as a sub-loop element where technically feasible. *Id.* at page 8.

146. Poles and pedestals are used in the Qwest loop plant to aggregate distribution facilities. Often these poles and pedestals are the FDI or part of it. Sometimes, however, the pole or pedestal is not part of the FDI and contains terminals or connections that could be accessed by the CLEC. Although required to do so, Qwest has not provided for poles and pedestals that are not part of the FDI. *Id.* at pages 8 and 9.
147. CLECs must have access to the central office end point of sub-loop feeder facilities. For simple copper feeder facilities with no intervening electronics, this access will be at the COSMIC, MDF, or an intermediate frame of the CLEC's choice. Where DLC or other technology is used in conjunction with feeder facilities, the CLEC may need access to the central office terminal that provides termination for DLC or other types of transport. Where fiber facilities are used, the CLEC must have access to the appropriate Hub/Mux or FDP. Qwest must provide access at the central office for feeder facilities at any technically feasible point. *Id.*
148. The NID is a sub-loop element. AT&T does not address it in these comments because it is to be discussed in a separate workshop. *Id.*
149. Qwest must provide access to all types of interconnection points that may be situated in MTE, campus, or high-rise type locations. These interconnection points are variously called MPOE, garden terminals, equipment closet panels, and other terms and names.

Any cabinet, panel, or other equipment that allows access to wiring associated with the loop should be included in this category. One example is a connection panel located at either an initial building, such as a service building, or at an MTE complex. This panel may be called a NID, but it may alternatively be designated as an MPOE with the NID being located nearer to the end user. Alternatively, the MPOE may be at the MTE with the NID located at the service building. In either case, the CLEC must have access at either the NID or the MPOE. Another example is telephone panels in equipment closets on each floor of a high rise. CLECs need access to each of these types of interface points for access to sub-loop elements. The FCC and other state public utilities commissions, such as the Georgia commission, have stated that the ILEC must construct an SPOI that can be accessed by multiple CLECs if the existing loop interface is not adequate to accommodate a number of local providers. *Id.* at pages 9 and 10.

150. The FCC has determined that the ILEC must provide an SPOI at MTEs and high-rise type locations where access to inside wire, riser cable, peripheral distribution facilities, or other sub-loop elements are not otherwise available. Where MTEs or other high-rise type locations have access panels, MDU, or other access points that will give CLECs equal access to end users in the buildings exist, these access points must be made available to the CLECs. Where such access points do not currently exist, the ILEC (Qwest in this case) must construct a panel to which all CLECs and Qwest have equal accessibility to access points for the end user connections. This access point has been termed the SPOI. An illustration of an SPOI is depicted in *Exhibit KW-2*. Qwest's FCP is not equivalent to the SPOI. The FCP is an intermediate connection point that Qwest proposes to insert at the FDI. It is second class interconnection for CLECs at the FDI, giving CLECs access,

though not equivalent to Qwest, to the FDI. Even if Qwest maintains that it would apply the FCP concept to points of interconnection at MTEs and other locations, the FCP is not equivalent access. The FCP gives the CLECs access through an additional frame or connection panel that Qwest does not use. *Id.* at pages 10 and 11.

151. The CLEC must have access to any wire or cable that the Qwest owns or controls in the loop. In MTE, campus, and high-rise configurations, there may be wire or cable that is not generally thought of as part of the distribution facility. When this wire is inside a single floor business or residence, it is normally called “inside wire.” When wire is located in a high-rise building, it may be called “riser cable.” When wire runs between buildings in a campus type configuration, it may be called by various names, but will be referred to as Peripheral Distribution Facilities in Qwest’s SGAT. These wires or cables serve the purpose of connecting end user equipment to the ILEC distribution facilities. The CLEC must have access to these sub-loop facilities where technically feasible. *Id.* at page 11.
152. The foregoing list of sub-loop elements and access points is not exhaustive. Other elements and access points may exist in the Qwest loop plant. Further, some elements and access points may have different names from those used above. Access to such elements should not be prohibited due to a difference in common name or in apparent function. Qwest should provide access to any sub-loop element or access point used in any portion of its loop plant unless it can prove to the CLEC, and the Commission, that it is technically infeasible for the CLEC to access the element or access point. *Id.* at pages 11 and 12.

153. The Qwest SGAT addresses sub-loop unbundling in § 9.3. Although Qwest must address all of the elements and access points discussed above, the SGAT addresses only Two-Wire Distribution and DS1 Feeder. Qwest fails to address the remaining elements and access points explicitly. If Qwest intends generally to address the other elements and access points as part of the two elements addressed in the SGAT, then it must provide additional descriptions to accomplish that purpose. As is, Qwest fails to address the majority of sub-loop elements and access points. *Id.* at page 12.
154. Serious problems exist with the manner in which Qwest is providing access to the two sub-loop elements addressed in the SGAT. They are:
- a. Requiring an intermediate connection point;
  - b. Lengthy provisioning delays;
  - c. Limiting spectrum on distribution facilities; and
  - d. Lack of rates for sub-loop elements.
- Id.* at page 12
155. In SGAT § 9.3.7, Qwest introduces the concept of the FCP as the method of access by the CLEC to the two sub-loop elements that Qwest is offering. The FCP appears to be an intermediate connecting panel, analogous to an intermediate frame. Qwest seems to be requiring an intermediate panel much as Qwest required an unnecessary intermediate frame in the central office. The FCP appears to be the sub-loop equivalent to the SPOT frame. CLECs should be able to select a single point of interconnection, *i.e.*, direct connection to FDI panels and equipment. An additional connection panel, such as the FCP appears to be, should be offered as an option, not a requirement, because it is not consistent with the FCC requirements. Qwest's requiring an additional, intermediate

connection panel adds time and cost to the CLECs' sub-loop needs. *Id.* at pages 12 and 13.

156. In § 9.3.11 of the SGAT, Qwest is proposes a very lengthy provisioning interval for access to sub-loop elements. Sub-loop elements are available only after a CLEC requests Qwest to install an FCP. The SGAT refers to an initial interval of 30 days to review a request for placing an FCP. After the request has been reviewed and the CLEC has accepted it, and paid an unspecified amount, Qwest will construct the FCP within 120 days. According to SGAT § 9.3.11.4, only after the FCP has been constructed can the CLEC actually place an order for the sub-loop element. Assuming that the CLEC takes 14 days to accept the request and to pay, and the time for provisioning of the order is another 20 days, the total time required is six months. This is far too long. CLEC customers will not wait six months for service. The construction of the FCP is the determining factor. This is yet another reason that Qwest cannot require the FCP. *Id.* at page 13.
157. Qwest restricts the spectrum of the Two-Wire Distribution Loop to the frequency range of 300 to 3000 Hz. This is unacceptable as it limits the CLECs' ability to provide DSL services over the Distribution Loop. DSL services use frequencies above 3000 Hz to carry high-speed data. No limitation should be placed on the use of spectrum on Distribution Facilities because it is contrary to the purposes of the Act and FCC interpretations. The CLEC should get the full benefit of Distribution Facilities' capabilities. *Id.* at pages 13 and 14.

158. Additionally, in § 9.3.3 of the SGAT, the FDI is referred to as the “Fiber Distribution Interface.” While the CLEC needs access to fiber in the feeder plant, this reference seems to be a mistake as Qwest does not appear to be offering fiber facilities in the feeder. In addition, the last sentence of § 9.3.8.1 is unnecessary as the previous sentence noted the same issue. Further, there may be times when Qwest owns inside wire and would be a party to the CLEC gaining access. There is no mention of waiver of costs when another CLEC has previously requested access to a particular FDI and Qwest has already done a feasibility study and any “make ready” work. There should be some reimbursement mechanism for the first CLEC to access an FDI. Time frames also should change for subsequent CLECs. These issues are not handled appropriately in the SGAT. *Id.* at page 14.
159. On page 24 of her affidavit, *Exhibit 3-Qwest-1*, Qwest witness Karen Stewart makes reference to Qwest Technical Reference Publication No. 77405. Because Ms. Stewart did not provide this document for review, there is no way to determine if it is consistent with provisions of the SGAT or expands on them. Qwest should be required to provide that publication in conjunction with its testimony in this docket. *Exhibit 3-ATT-1* at pages 14 and 15.
160. In addition, on page 30 of her affidavit, Ms. Stewart describes a method to share costs between the CLECs for the establishment of the FCP. Ms. Stewart states that the third CLEC using the FCP would pay 17 percent to each of the first two. This sharing relationship is at odds with the FCC’s requirement for a single point of interconnection for multiple carriers. All carriers, including Qwest, should share the cost of any network reconfiguration required to create a single point of interconnection. The cost sharing

provision should be included in the SGAT. The current SGAT does not contain this provision. *Id.* at page 15.

161. In the last paragraph on that same page, Ms. Stewart states, “After the construction of the FCP, Qwest will provision Two-Wire Unbundled Feeder Sub-loop . . . .” The reference is unclear as it seems it should be to to DS1 Unbundled Feeder Sub-loop. *Id.*
162. In discussions of Checklist Item No. 3 (access to poles, ducts, conduits, and rights-of-way) during Workshop No. 1, AT&T identified access to sub-loop elements and all associated rights-of-way, especially in an MTE context, as a critical component of required access under the Act. The parties’ discussion of rights-of-way issues in an MTE context, however, has not been definitely resolved. The parties should work to resolve any remaining issues on this point in the workshop on emerging services. *Id.* at pages 15 and 16.
163. Initially, AT&T raised concerns about explicit or implicit restrictions on access to sub-loop elements made as a consequence of assertions that AT&T lacked access to underlying "rights-of-way." These concerns were sharpened in discussions on rights-of-way with Qwest when Qwest suggested in the Colorado and Arizona workshops and in off-line discussions, variously, that no requirements in addition to those set forth in the SGAT were necessary to access sub-loop elements, that all physical access to any part of the Qwest network required the consent of the underlying landowner, and that Qwest effectively disclaimed any warranty (or even the existence) of access to any "right-of-way" in an MTE context. The concerns were exemplified, in part, by Qwest’s now-rejected "quitclaim" proposal. *Id.* at page 16.

164. CLEC concerns here are clear. The parties need to match the pieces of access to sub-loop elements and access to rights-of-way. When placed side by side, the SGAT sections addressing these issues must be seamless in order to assure that CLECs have, as a practical and legal matter, all access mandated by the Act. *Id.*
165. Ultimately, Qwest should propose and include in the SGAT an affirmative commitment to permit access to sub-loop elements without requiring CLECs to engage in an unnecessary exercise to obtain a "right-of-way." *Id.*
166. In its supplemental comments for emerging services, *Exhibit 3-ATT-3*, AT&T re-addressed some sub-loop issues that were still of concern and provided the Commission with information on AT&T's sub-loop access experiences.
167. As part of an inquiry into Qwest's present practices regarding sub-loop access and the SGAT's attempts to provide such access, AT&T believes the parties should consider certain specific sub-loop access experiences of the parties. AT&T has had a couple of experiences that the parties may find instructive. Qwest is familiar with each of these issues. *Id.* at page 7.
168. First, AT&T has been attempting to access wiring inside various Multiple Dwelling Units in Bellingham, Washington. AT&T has a pressing need to access wire, which runs from a point immediately adjacent to individual MDUs to various customer suites, in order to provide local telephone service to customers living in those MDUs. At these locations, Qwest claims to own or control this wire. Even after extensive negotiation for access to the Bellingham MDUs, Qwest has thwarted AT&T's efforts to afford competitive service, including Qwest's pulling connected AT&T wiring and conduit from Qwest



building access terminals located at the MPOE terminal(s) in Bellingham, as well as demanding non-viable, cost-prohibitive, and commercially coercive methods for AT&T to obtain access to wiring inside the MDUs. Such actions by Qwest have made it virtually impossible for AT&T to provide local residential service to various Washington customers located in MDUs. Qwest's discriminatory conduct is contrary to the public interest as well as Washington and federal law. Qwest's conduct is the subject of a complaint filed by AT&T with the Washington Utilities and Transportation Commission. *Id.* at pages 7 and 8.

169. Second, AT&T has been attempting to access conduit facilities at MDUs in Portland, Oregon. These conduit facilities are owned by the property owner but are occupied by Qwest sub-loop elements. As with the Bellingham, Washington, controversy, AT&T has a pressing need to access these conduit facilities in order to provide service to customers in the subject MDUs. Qwest appears to have occupied these conduit facilities with the understanding that AT&T would be providing telecommunications services to these MDUs. Qwest has asserted that the presence of Qwest's sub-loop facilities in these conduits "effectively prohibit" AT&T's access to the conduit facilities. AT&T and Qwest have attempted to resolve this issue. AT&T proposes that the most effective and efficient resolution is either to "overpull" AT&T's copper sub-loop facilities through the conduit or to have AT&T pull AT&T's copper facilities, and replace Qwest's existing facilities with new copper facilities, using Qwest's existing facilities to pull both AT&T's new and Qwest's replacement facilities. AT&T has even offered to perform the latter option at AT&T's own expense. Qwest's proposed resolution is either to dig a new

trench and install new conduit or to connect aerially to the MDUs. AT&T and Qwest continue to discuss this issue. *Id.* at pages 8 and 9.

170. In its supplemental comments, AT&T sets forth certain specific issues regarding Qwest's sub-loop unbundling proposal. AT&T continues to believe that Qwest's SGAT proposal for sub-loop access, even with Qwest's recent revisions, remains so flawed as to warrant an entire overhaul of the section. *Id.* at page 9.
171. SGAT § 9.3.1.1 sets forth Qwest's definition of sub-loop. This definition is deficient in several ways. First, AT&T notes that Qwest's definition of sub-loop does not track the definition of sub-loop provided by the FCC in the *UNE Remand Order*. Qwest should state whether it intends the definition of the sub-loop element to be materially different than the FCC's definition and if so, why. Next, although Qwest attempts to list available points of interface, the list is incomplete. Qwest must include all available points of interface, including the points of interface described in AT&T's initial comments. *Exhibit 3-ATT-1*. In addition, Qwest introduces a new point of access defined in § 9.3.1.1 as the "Service Area Interface." Qwest must explain this interface with more detail. Finally, as part of Qwest's Rebuttal Testimony, Qwest submitted several diagrams that it suggested clarified the sub-loop definition issues. AT&T submitted diagrams of its own that it intended to illustrate sub-loop definition issues as well as part of AT&T's Initial Comments. AT&T anticipates that both parties will have an opportunity to explore these diagrams and the issues implicated by them in the next session of Workshop 3. *Exhibit 3-ATT-3* at pages 9 and 10.

172. In SGAT § 9.3.1.2 (and then again throughout §§ 9.3.2 and 9.3.3) Qwest identifies three specific types of sub-loop in two categories (feeder and distribution) that are “available” to CLECs. Qwest’s language implies that other sub-loops are not available or are available only through the BFR process. Here, once again, CLECs are subject to Qwest’s arbitrary and unlawful “productization” process. As Qwest has described in other workshops and other sessions, Qwest makes available to CLECs only a distinct set of “products.” Qwest establishes these “products” at its sole discretion. The products do not necessarily reflect the needs of Qwest’s customers or the mandates of the law. As in other ways, CLECs are made to suffer Qwest’s caprice. Here, Qwest has developed several products only generally available to CLECs. *Id.* at page 10.
173. More pointedly, Qwest’s classification of sub-loops into strict categories of feeder and distribution is the result of Qwest’s efforts to exact as much unwarranted revenue from CLECs as possible. Qwest will assert that a CLEC may access any part of the sub-loop at any technically feasible point. What Qwest also will make clear is that, regardless of whether the actual access to the sub-loop is obtained, the sub-loop element will be construed as either feeder or distribution. *Id.* at page 10.
174. AT&T has learned in other jurisdictions that Qwest has made an interim apportionment of loop costs between these two categories. Its apportionment has resulted in an unwarranted allocation of the majority of loop costs to distribution facilities of any length. AT&T has suspicions—that will be flushed out more fully in the pricing proceeding accompanying this proceeding if required—that, in many instances, Qwest already has recovered the costs of the existing sub-loop and that such expenses imposed on CLECs are truly unfair and unreasonable. *Id.* at pages 10 and 11.

175. As a result of Qwest's allocation, a CLEC may access a few feet of what Qwest designates as the Distribution Loop and be required to pay the majority of costs for the entire loop. Qwest's proposal clearly disadvantages CLECs and diminishes the likelihood that competitors will expediently introduce their own facilities-based services. Further, this is clearly contrary to law. The FCC has said that, "as a rule, requesting carriers that supply their own facilities cannot afford to pay twice—first for the facilities they self-provision, and again for the incumbent's loop, including the portion they do not utilize." *UNE Remand Order* at ¶ 212. Although Qwest may argue that a final resolution of this issue is appropriate in the pricing proceeding, AT&T maintains that the parties must confirm whether this distinction has any merit in this proceeding. *Exhibit 3-ATT-3*, at page 11.
176. Section 9.3.1.3 of the SGAT sets forth certain conditions precedent before a sub-loop is available, namely, that a FCP be installed. AT&T addresses its concerns regarding the FCP; however, to the extent that AT&T's concerns about the FCP are not addressed, AT&T objects to conditioning sub-loop unbundling upon the FCP. As an additional matter, Qwest should clarify what it means when it describes the sub-loop as "available" after installation of the FCP in this section. Does Qwest mean that a sub-loop cannot be ordered until the FCP is installed, as §§ 9.3.11.4 and 9.3.6.1 suggest? *Id.*
177. Sections 9.3.2 and 9.3.3 set forth definitions of two possible categories of sub-loop element. AT&T has described a general objection to Qwest's presumptive "productization" of sub-loops above. In addition, Qwest should confirm that any sub-loop element is available at all technically feasible speeds and with all technically feasible media. Qwest should clarify its restriction of distribution loops to those facilities

“suitable for local exchange-type services within the analog voice frequency range of 300 to 3000 Hz,” found in § 9.2.3. *Id.*

178. Section 9.3.2.2 describes the availability of non-loaded distribution loop. AT&T notes that the availability of any non-loaded sub-loop element should be consistent with the provisions regarding non-loaded loops in § 9.2, Loops. *Id.*
179. Section 9.3.4 describes terms and conditions for access to sub-loop elements. This section and its subsections create real ambiguity about how a CLEC may in fact access sub-loop elements. The use of the permissive “may” in §§ 9.3.4.1 and 9.3.4.2 suggests that other means of access may be permitted. The use of the mandatory “will” in § 9.3.4.3 implies that only the access described will be permitted. Further, AT&T recognizes that certain remote collocation issues are implicated in § 9.3.4.2. *Id.*
180. More substantively, Qwest appears to intend that any “non-standard” access must be through the BFR process. The BFR is wholly inappropriate for determining so-called non-standard access. The BFR process, as initially crafted, is a mechanism for determining technical feasibility. The FCC has determined the forms of access that are technically feasible. Making a CLEC resort to the BFR process merely because certain forms of access are non-standard to Qwest is wasteful, discriminatory, and anticompetitive. If the forms of access identified in AT&T’s Initial Comments are technically infeasible, Qwest must demonstrate that now. Otherwise, Qwest’s SGAT must include all forms of access, standard and non-standard. *Id.* at pages 12 and 13.
181. Section 9.3.5 of the SGAT sets forth Qwest’s proposal for rate elements. Although the pricing proceeding will examine these elements in detail, Qwest should describe its

theories of recovery behind the sub-loop non-recurring charge, sub-loop recurring charge, and the sub-loop trouble isolation charge. *Id.* at page 13.

182. SGAT § 9.3.6 establishes the ordering and provision requirements Qwest proposes for access to sub-loops. This section implies that sub-loops may only be ordered “after the FCP is in place.” As with § 9.3.11 (discussed below), Qwest appears to impose a double-interval on sub-loop access. AT&T requests that Qwest demonstrate the typical order flow-through (identifying all appropriate intervals) for the sub-loop LSR, FCP request, and remote collocation application. *Id.*
183. Section 9.3.6.1 states “CLEC will use the termination information provided at the completion of the FCP on the LSR for sub-loops.” AT&T requests that Qwest explain how this provision works in practice. Further, AT&T requests that Qwest identify all NC/NCI codes for sub-loop elements that a CLEC might identify and whether this identification will appear on the LSR. *Id.*
184. Section 9.3.6.4 imposes a requirement on CLECs to await the dispatch of a technician to do sub-loop jumpering and prohibits a CLEC from disconnecting Qwest facilities or running jumpers between CLEC and Qwest sub-loop elements without Qwest’s written permission. AT&T believes that the Bellingham, Washington, situation (described above) demonstrates Qwest’s abuse of this requirement. Accordingly, AT&T believes that this provision should be deleted or substantially revised. *Id.* at pages 13 and 14.
185. SGAT §§ 9.3.7 and 9.3.8 describe Qwest’s FCP proposal. As Qwest makes clear, this proposal is a form of remote collocation. As such, the parties’ discussion of the FCP must be done within the context of the general requirements of collocation. AT&T

believes that the FCP issue is one of sub-loop unbundling, not one of remote collocation. Further, Qwest's proposal is complex and will require extensive discussion. In addition to the initial consideration of how to classify the FCP issue, AT&T raises a number of issues (discussed below) that must be resolved. AT&T believes discussion of the nature of the FCP will reveal issues not apparent in the SGAT language as written or in Qwest's comments. *Id.* at page 14.

186. Section 9.3.8.1 states that a CLEC is required to obtain any necessary authorizations or rights-of-way required to provide "Adjacent Remote Collocation." This provision is directly contrary to Qwest's provisions regarding access to rights-of-way. Accordingly, Qwest must afford AT&T access to such rights-of-way consistent with § 10.8. Further, it is reasonable to expect Qwest to cooperate in good faith with CLEC as it attempts to overcome the "obstacles" described by Qwest in this section. In addition, the parties should recognize, and the SGAT should reflect, that in certain circumstances a CLEC may construct its own single point of access or single point of interface for access to sub-loop elements. A CLEC may do this because it finds it expedient or cost-effective. In such circumstances, the CLEC should be authorized to perform the work and to make the connections required to provide service. *Id.* at page 14.

187. Section 9.3.8.3 of the SGAT suggests that, if a CLEC is unable to gain access to sub-loops, it may resort to dispute resolution or arbitration under § 252 of the Act. Such a provision is discriminatory and anticompetitive. It is AT&T's experience that Qwest has incentives not to cooperate with CLECs to provide access to sub-loops. Accordingly, it will be advantageous for Qwest always to disagree on sub-loop access. Qwest must

come up with a more expeditious policy for resolving disputes. CLECs cannot afford to fight this issue MDU by MDU. *Id.* at page 15.

188. Section 9.3.11 describes the ordering process to be used when a field interconnection point is to be ordered. Qwest assumes that a sub-loop cannot be made available until an FCP is installed and that an FCP only can be ordered in conjunction with a remote collocation application. AT&T questions as a general matter whether the distinct (and time-consuming) ordering processes for sub-loop and FCP and remote collocation are necessary and asks whether they could be integrated. As it stands, a CLEC must submit an LSR for access to the sub-loop, an FCP request, and a remote collocation application. *Id.* at page 15.

189. In addition to correcting these specific deficiencies of Qwest's existing SGAT provisions, Qwest must include additional provisions. For example, Qwest should provide explicit assurances that access to sub-loops will not require CLEC to obtain any kind of additional right-of-way or authorization from the landowner except as already discussed. *Id.* at page 15.

190. Further, Qwest should provide concentration and multiplexing functionalities. CLECs should be assured that sub-loop elements will be delivered in accordance with Qwest's design specifications and that, if any sub-loop components require power (*i.e.*, repeaters), Qwest will provide such power and battery back-up using the same engineering standards as those applied to Qwest's own use of sub-loop elements. Qwest should elaborate on the kinds of testing (cooperative, joint, or otherwise) that may be made available to CLECs. *Id.* at pages 15 and 16.



191. Mr. Thomas T. Priday filed initial comments in this workshop on behalf of WorldCom. *Exhibit 3-WCom-1*. In these comments, Mr. Priday addresses some concerns that WorldCom had with Qwest's sub-loop provisioning.
192. The *UNE Remand Order* at ¶ 206 requires that sub-loops be accessible at terminals in the ILEC's outside plant where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within. This order does not impose the additional restrictions concerning digging and trenching that Qwest has included in its SGAT terms. Qwest informed the CLECs in the Emerging Services workshops in Arizona that much of its outside plant is encapsulated to protect against the harsh elements in its territory. Qwest is defining an "accessible terminal" in its SGAT to mean a point on the loop that technicians can access without removing a splice case or that technicians can access without digging and trenching. If most of Qwest's outside plant must be accessed by digging and/or trenching because it is encapsulated, then Qwest is in essence denying CLECs access to the sub-loop. *Exhibit 3-WCom-1* at pages 7 and 8.
193. Therefore, § 9.3.1.1 should be modified as follows:
- 9.3.1.1 Sub-loop is defined as any portion of the loop that it is technically feasible to access in Qwest's terminals in outside plant, *i.e.*, an accessible terminal, pole, pedestal, Feeder Distribution Interface (FDI) or Minimum Point Of Entry (MPOE) including inside wire (owned by Qwest). An accessible terminal is any point on the Loop where technicians can access the wire or fiber within the cable without removing a splice case ~~and/or digging up or trenching underground~~ to reach the wire within. *Id.* at pages 7 and 8.
194. Further, the SGAT addresses sub-loop unbundling of two-wire loops; however, four-wire loops are also available to CLECs as UNEs and also should be available on a sub-loop

basis. This is another attempt by Qwest to limit the types of DSL technologies that can be implemented by CLECs and to create an unfair competitive advantage for its own, more flexible DSL services, resulting in restricting competition for advanced services. Accordingly, the SGAT should be modified to include both two-wire and four-wire sub-loops. *Id.* at page 8.

195. SGAT § 9.3.9.4 inappropriately allocates the entire cost of construction of an FDI Field Connection Point to accommodate up to three CLECs to the first CLEC and only allows the first CLEC to recover a portion of that cost if/when additional CLECs subsequently interconnect at that FDI-FCP. In the *Advanced Services Order* at ¶ 51, it states:

We conclude, based on the record, that incumbent LECs must allocate space preparation, security measures, and other collocation charges on a pro-rated basis so the first collocater in a particular incumbent premises will not be responsible for the entire cost of site preparation. For example, if an incumbent LEC implements cageless collocation arrangements in a particular central office that requires air conditioning and power upgrades, the incumbent may not require the first collocating party to pay the entire cost of site preparation. In order to ensure that the first entrant into an incumbent's premises does not bear the entire cost of site preparation, the incumbent must develop a system of partitioning the cost by comparing, for example, the amount of conditioned space actually occupied by the new entrant with the overall space conditioning expenses.

*Id.* at page 9.

196. In accordance with the *Advanced Services Order*, the CLEC must only be required to pay for the forward-looking costs of a facility that the CLEC actually uses. In the absence of an established forward-looking cost, the CLEC should not be expected to pay any more than its pro-rata share of the construction charge as an interim solution. Thus, Qwest's attempt to push these additional costs onto the first CLEC, even if only temporarily, is

not justified. The SGAT should be modified to reflect that a CLEC will pay one-third of the quoted price. *Id.* at page 10.

197. With regard to § 9.3.11.3, the length of time to implement FDI is excessive. In the opinion of WorldCom subject matters experts, Qwest should take 30-60 calendar days to do this type of construction internally. Typically, the longest lead times for outside plant construction relate to obtaining the necessary permits and/or franchises, which might run 60-90 calendar days. However, such would not be required for FDI as the pedestal would already be installed. The pedestal site might also be grandfathered under earlier requirements so permits might even be waived. Qwest's lead times should more properly reflect installation time frames for the labor and plant equipment modifications; these would typically be 90 or fewer calendar days, depending on order backlogs for the equipment. *Id.*
198. On the other hand, WorldCom would need at least 90-120 calendar days of construction time once it has asked Qwest for a quote because, in all likelihood, WorldCom would have to obtain permits to lay cable to connect the FDI/FDC to its closest point of presence. Therefore, a CLEC should have the 30-calendar day feasibility plus the 30-calendar day payment window plus another 60 calendar days minimum for completion of its ROW steps plus construction. SGAT § 9.3.11.3 should be modified appropriately. *Id.* at page 10 and 11.
199. Covad raises concerns in its initial comments. *Exhibit 3-Covad-1*. Covad asserts that, in Rule 51.319(a), the FCC clearly states that CLECs are entitled to (and Qwest is obligated to provide) sub-loop unbundling at any accessible point. Qwest, however, is attempting

to evade its unbundling obligations by requiring that CLECs install an intermediate facility FCP. The FCP appears to be an unnecessary addition to the network; it adds cost, complexity, time, and another potential point of failure. Sections 9.3.1.3 and 9.3.4.1 must be modified to reflect Qwest's legal obligations. *Id.* at page 14.

200. In Ms. Stewart's affidavit, *Exhibit 3-Qwest-1*, Qwest makes CLEC access to sub-loops contingent upon the installation of an FCP, which Qwest admits will take at least five months to complete. As accessing sub-loops is simply a form of remote collocation, intervals for providing access to sub-loops should never exceed the 90-day collocation interval recently mandated by the FCC. *Exhibit 3-Covad-1* at pages 14 and 15.
201. Qwest's current proposal fails to meet the mandates of § 271 to the extent that it discriminates against CLECs. Qwest is requiring CLECs to jump through a number of needless, time-consuming, expensive hoops, while it is free to provision for itself without any of these encumbrances. *Id.* at page 15.
202. Covad raises other concerns with specific SGAT sections and other sub-loop provisioning issues.
203. Section 9.3.9.4 inappropriately requires that the first CLEC to request the mandated construction of an FCP pay for the entire cost of the construction. The *Advanced Services Order*, however, specifically prohibits ILECs from charging the first collocater in a particular incumbent premises for the entire cost of site preparation. Qwest's proposed cost allocation for the FCP must be revised. *Id.* at page 15.

204. Adding additional cabinets or pedestals to an existing location will likely result in zoning and right-of-way problems, which will in turn result in many requests being denied for “feasibility” reasons. *Id.*
205. Qwest should provide individual CLEC cross-connect blocks in the existing cabinet rather than adding additional needless network devices, such as the FCP, which will also require two cross-connects to be made for each sub-loop ordered. These blocks can very easily serve as the point of demarcation between networks. *Id.*
206. The FCP should only be used when there is no space at the existing Qwest “accessible terminal.” If Qwest alleges a “no space” condition, the same SGAT provisions addressing no collocation space in central office should apply to the terminal, including the opportunity for the denied CLEC to make a visual inspection of the terminal. *Id.* at page 16.
207. Qwest must provide access to “accessible terminals” even if the terminal ownership has been transferred to an affiliate. Competition must not be side-tracked by business maneuvers such as transferring assets to unregulated affiliates. A process for testing after provisioning of an order prior to acceptance should be developed. CLECs should be called prior to closing tickets. *Id.*
208. ICG filed comments on sub-loop provisioning on October 10, 2000. *Exhibit 3-ICG-1.* ICG asserts that the FCC rule at 47 C.F.R. § 51.319(a) is clear that CLECs are entitled to sub-loop unbundling at any accessible point. However, Qwest’s response in the SGAT to the sub-loop unbundling requirement of the FCC’s rules apparently is to allow sub-loop unbundling only if the CLEC has installed an intermediate FCP. Additionally, Qwest

appears to propose only one standard offering for sub-loop unbundling, which provides access only at the FDI (but again, only if an FCP is installed), with all options other than the use of FCPs at the FDI being available only on an individual case basis through the BFR process. *Exhibit 3-ICG-1* at page 15.

209. As ICG understands the process proposed by Qwest in the SGAT, after receiving a request for a sub-loop, Qwest would construct an FCP. ICG has many concerns with the FCP requirement and process as set forth in the SGAT, concerns which, in ICG's view, mandate a finding that Qwest's sub-loop proposal does not meet the nondiscrimination and market-opening requirements of § 271 of the Act. First, according to SGAT § 9.3.6.1, a CLEC may only submit orders for sub-loop elements after the FCP is in place. According to the Affidavit of Karen Stewart, *Exhibit 3-Qwest-1*, at pages 26 and 27, the process of placing an order for an FCP and completing construction of the FCP will take five months or more. ICG submits that a 150+day provisioning interval for obtaining access to unbundled sub-loops is an unreasonable delay that will deprive competing carriers of a meaningful opportunity to compete for advanced services customers by materially and adversely impacting the ability of CLECs to provide advanced services on a timely basis. *Exhibit 3-ICG-1* at pages 4 and 5.
210. Second, the SGAT is unclear as to where the FCP will be located. ICG submits that, at minimum, clarification and more precise SGAT language are required to provide CLECs with sufficient certainty as to how sub-loop unbundling will be accomplished. *Id.* at page 5.

211. More importantly, however, the FCP requirement is unlawful under the FCC's rules. Under FCC Rule 51.319(a) a requesting carrier is entitled to connect to any access terminal in the ILEC's outside plant, including the FDI, as long as it is technically feasible and sufficient space is available. It is clear that an accessible terminal exists inside the FDI, but significantly, Qwest has not made any showing in Ms. Stewart's affidavit that direct access to an accessible terminal inside the FDI is not technically feasible. Moreover, the SGAT does not require Qwest to make a showing that there is insufficient space within an FDI prior to imposing the requirement that an FCP be constructed. Instead, an FCP is required under the SGAT in all instances as a precondition for a CLEC to be able to submit any orders whatsoever for sub-loop elements. Therefore, the requirement for an FCP appears to exist regardless of whether there is sufficient space available within an FDI and regardless of whether it is technically feasible to connect within the FDI itself. However, the FCC's unbundling rules clearly place the burden on the ILEC to demonstrate that there is insufficient space available or that a requested access is not technically feasible. Qwest appears to be ignoring that burden entirely. *Id.* at pages 5 and 6.
212. Qwest also ignores the FCC's language in the *UNE Remand Order* that sub-loops are to be provided with the maximum degree of flexibility. The *UNE Remand Order* at ¶ 223 expressly states that the FCC "seeks to provide requesting carriers maximum flexibility. Accordingly, we establish a rebuttable presumption that the sub-loop can be unbundled at any accessible terminal in the outside loop plant." And as for technical feasibility, the FCC states that "the question of technical feasibility, including the question of whether or not sufficient space exists to make interconnection feasible at assorted huts, vaults, and

terminals, and whether such interconnection would pose a significant threat to the operation of the network, are fact specific . . . [and] best determined by state commissions [.] *Id.* at ¶ 224. Qwest does not even acknowledge that a rebuttable presumption exists, much less attempt to rebut that presumption through fact specific showings of technical infeasibility or the absence of expandable space. These showings are required in order for Qwest to support its “standard offering” approach that requires all requesting carriers to agree to have Qwest construct an FCP “near” an FDI in order to obtain any access whatsoever to sub-loop elements. *Exhibit 3-ICG-1* at pages 6 and 7.

213. ICG submits that Qwest’s FCP requirement does not allow for nondiscriminatory access to sub-loops by requesting carriers. To the contrary, regardless of the availability of space within the FDI and regardless of any showing of technical infeasibility, requesting carriers will be forced to absorb the costs of unnecessary FCP arrangements. Qwest, however, will enjoy the efficiency of interconnecting to sub-loops within the FDI. Qwest’s SGAT, therefore, rather than showing Qwest’s compliance with § 271, demonstrates how Qwest is creating policies and processes that provide advantages to itself to the detriment of competing carriers. *Id.* at page 7.
214. ICG is concerned about the rate structure proposed by Qwest for access to sub-loop elements. SGAT § 9.3.9.4 proposes a construction charge to be assessed on the initial requesting carrier, in an amount equal to 100 percent of the cost of constructing the FCP and associated facilities. This construction charge is said to be on an individual case basis at SGAT § 9.3.9.1. If one or two other requesting carriers subsequently utilize the FCP, however, the initial requesting carrier could pursue either or both of the CLECs to try to recover up to two-thirds of the construction charge from those CLECs. This



provision is contained in SGAT § 9.3.9.4. Feasibility fees and quote preparation fees also apply pursuant to §§ 9.3.9.2 and 9.3.9.3, as do non-recurring and recurring rate elements associated with provisioning the sub-loop itself after the FCP has been constructed, as per SGAT § 9.3.5. *Id.* at pages 7 and 8.

215. ICG acknowledges that, in those situations (and only in those situations) in which Qwest has made a fact specific showing that it is not technically feasible to provide access to the sub-loop at an access terminal inside of the FDI, or has made a fact specific showing that there is no expandable space to allow carriers to connect to sub-loops within the FDI, Qwest has an opportunity to make a showing that an alternative facility (such as an FCP) is justified. However, that does not mean that, even in those limited situations in which Qwest has been able to justify the use of an FCP, Qwest thereby automatically is entitled to recover the costs of the FCP through special construction charges that are imposed in addition to the charges already included in the regular sub-loop UNE rates. To the contrary, ICG submits that the costs of an FCP must be encompassed within the regular UNE rate, except for those exceptional situations in which Qwest has made an affirmative showing that special construction costs are justified. Yet the SGAT presumes that special construction charges will always be warranted (again, even if no showing has been made that an FCP is even permissible under the FCC rules). *Id.* at page 8.

216. Additionally, assuming *arguendo* that Qwest may be permitted in certain situations to assess a special construction charge associated with the FCP, the manner in which Qwest has set the charge violates the FCC's collocation pricing rules. Under the FCC's collocation pricing rules, Qwest is limited to charging the requesting carrier only that percentage of the total cost that represents the initial requesting carrier's utilization of the

FCP arrangement. SGAT § 9.3.9.4, as explained by Ms. Stewart in *Exhibit 3-Qwest-1*, clearly does not comply with the FCC rule because the entire charge is assessed on the first requesting carrier, who then has the burden of attempting to collect a portion of those costs from other CLECs who subsequently occupy the space. *Exhibit 3-ICG-1* at pages 8 and 9.

217. ICG submits that, at minimum, Qwest must delete all provisions of the SGAT that require an FCP in order to obtain access to unbundled sub-loops. If Qwest insists that language be included in the SGAT with respect to space availability issues, ICG suggests language which mirrors FCC Rule 51.321 governing collocation. *Id.* at pages 10 and 11
218. Yipes filed comments on sub-loop unbundling and related issues on April 2, 2001. *Exhibit 3-Yipes-1*. Yipes is a start-up company that was granted certification to provide local exchange and emerging competitive services in Colorado on June 9, 2000.
219. Yipes' operational experience in Colorado and the other Qwest states is very recent and therefore limited. Nevertheless, Yipes is concerned that Qwest is not meeting the goals or requirements of the *UNE Remand Order* on sub-loop unbundling.
220. In order to facilitate Yipes' network plan, Yipes must have access to Qwest's unbundled sub-loops (and, more specifically, portions of unbundled dark fiber loops) at a number of points on the Qwest network. Such locations include splice boxes, FDI boxes, remote switching buildings, and other boxes, vaults, and remote locations. With respect to smaller remote facilities, such as splice and FDI boxes, where Qwest may not have an FDP at the remote premise, Yipes has requested that Qwest provide access to the dark fiber sub-loop by splicing the Qwest fiber to another Qwest fiber or splicing the Qwest

fiber to a Yipes fiber. This type of access arrangement has already been found to be technically feasible by a state commission. Therefore, under the FCC's "best practices" rebuttable presumption contained in the *UNE Remand Order*, Qwest must also provide this access arrangement to Yipes. Qwest, however, is refusing to do so. *Exhibit 3-Yipes-1* at pages 4 and 5.

221. In a series of arbitration decisions issued between 1996 and 1999, the Massachusetts Department of Telecommunications and Energy (MA DTE) held that Verizon must provide CLECs with access to dark fiber at splice points. The MA DTE specifically found that it is technically feasible and consistent with industry practice to lease dark fiber at splice points. *Id.* at page 5.
222. The MA DTE orders, and Verizon's service offering in response thereto, make clear that the access arrangement that Yipes is now seeking from Qwest is technically feasible and in fact is being provided by an incumbent LEC. *Id.* at page 6.
223. The need for this access arrangement is not a theoretical problem for Yipes. If Qwest refuses to provide a splice to its existing unbundled dark fiber, such refusal may mean that Yipes will be substantially delayed in, and possibly completely precluded from, accessing unbundled dark fiber sub-loops at remote premises where there is no existing FDP. In Yipes' view, however, it is technically feasible for Yipes to bring its fiber cable either into an existing Qwest box, or into an adjacent Yipes box. Qwest then could splice directly to the Yipes fiber cable or could splice to a short interconnect fiber cable that would run between the Qwest box and the Yipes box. Yipes could then locate an FDP in its own box and thereby obtain access to the Qwest unbundled sub-loop. This

arrangement is technically feasible and is a more efficient use of both Qwest's and Yipes' facilities. This arrangement also avoids the need for Yipes' technicians to access Qwest's splice boxes directly. *Id.* at page 6.

224. Yipes believes this issue can be resolved simply. The *UNE Remand Order* states that, once a state has determined that it is technically feasible to unbundle sub-loops at a designated point, it is presumed that it is technically feasible for all other ILECs, in all other states, to unbundle the loop at that same point. Qwest, therefore, must provide the same access arrangement to Yipes as has been ordered by the Massachusetts DTE and currently is being offered by Verizon. Qwest can avoid this unbundling obligation only if it rebuts the presumption with a showing that such access is not technically feasible. To rebut the presumption, as set out in the *UNE Remand Order*, requires Qwest to demonstrate that “the conditions surrounding a request for unbundling at a similar point differ to such an extent that it is not technically feasible for the incumbent to provide unbundled access to that sub-loop element [.]” *UNE Remand Order* at ¶ 227.

225. To Yipes' knowledge, Qwest has not made any showing that the access to sub-loops at fiber splice points requested by Yipes is not technically feasible. Qwest has not made any showing that conditions in the Qwest network differ from that in the Verizon network. Qwest likely is unable to make such a showing of technical infeasibility because Qwest in fact currently is providing fiber splicing at mid-span fiber meets. *Exhibit 3-Yipes-1* at page 7.

226. Qwest's refusal to provide the sub-loop access requested by Yipes is based not on any technical reasons, but rather only on Qwest's narrow legal interpretation of language in

the *UNE Remand Order*. Although Yipes cannot speak for Qwest, in interconnection agreement negotiations conducted between Qwest and Yipes, Qwest refused to provide the access arrangement requested by Yipes because of its assertion that the definition in the *UNE Remand Order* of an “accessible terminal” permits such refusal. *Id.*

227. Yipes does not dispute the definitions established in the *UNE Remand Order* at ¶ 206. However, clearly the FCC did not intend this definition to be used by an ILEC to avoid an unbundling obligation that has already been found by a state commission to be technically feasible. Rather, in establishing the best practices rebuttable presumption, the FCC sought to create a simplified procedure by which requesting carriers could obtain additional means of accessing sub-loops that may not have been contemplated by the FCC at the time the *UNE Remand Order* was adopted. Under the best practices presumption, as long as one state commission has already determined that a method of obtaining sub-loop unbundling is technically feasible, that same method must be made available by all ILECs to all requesting carriers. As the FCC stated, “[o]ur approach to sub-loop unbundling reflects the network as it exists today. Technology may develop, however, in ways that would render this approach too limiting. We believe that this ‘best practices’ approach insures that incumbent LECs do not limit access to sub-loops based on unforeseeable technological and infrastructure developments.” *UNE Remand Order* at ¶ 227.

228. The FCC clearly would not have established the best practices presumption if it was not concerned that the definitions and examples set forth in the Order may prove, in practice, to be too limiting to meet the needs of requesting carriers and, thus, may prevent requesting carriers from obtaining the sub-loop access needed to serve customers

efficiently. The best practices presumption is intended to guard against just such overly limiting interpretations by the ILECs as Yipes is facing from Qwest. *Exhibit 3-Yipes-1* at page 8.

229. In its interconnection agreement negotiations with Yipes, Qwest has sought to circumvent the simplified procedure established by the FCC under the best practices presumption. Because the best practices rebuttable presumption has been invoked for the access arrangement requested by Yipes, it is appropriate that Qwest be required, in this proceeding either to make the requisite showing that technical issues in the Qwest network render the form of access technically infeasible or to provide the requested access. *Id.* at page 9.

230. Moreover, even if the form of access requested by Yipes had not already been held to be technically feasible by the Massachusetts DTE, and therefore the best practices rebuttable presumption had not been invoked, it would still be appropriate for the Commission to investigate the technical feasibility of such requested access in this proceeding. Under the *UNE Remand Order*, this Commission has the authority to require the ILECs to unbundle elements in addition to those that the FCC requires to be unbundled, as long as the obligations are consistent with the requirements of § 251 of the Act and the national policy framework instituted in the *UNE Remand Order*. With respect to the access being requested by Yipes, the Commission must determine whether, taking into consideration the availability of alternative elements outside the incumbent's network (including self-provisioning or requiring an alternative from a third-party supplier), lack of the access requested by Yipes would materially diminish Yipes' ability to provide the services it seeks to offer. *UNE Remand Order* at ¶ 154. From Yipes' perspective, a lack of access

to unbundled sub-loop dark fiber at Qwest splice boxes in fact does materially diminish its ability to provide service. *Exhibit 3-Yipes-1* at page 9.

231. Yipes has reviewed SGAT §§ 9.3 and 9.7 as currently proposed, and finds the sub-loop provisions difficult to decipher as worded. It does not appear that the current SGAT provisions meet Yipes' needs as discussed in its comments. *Id.* at page 10.

#### **4. Qwest's Response**

232. On October 25, 2000, Qwest witness Karen A. Stewart filed a rebuttal affidavit to reply to the testimony of numerous parties concerning emerging services now available to CLECs in Colorado, including sub-loop unbundling. *Exhibit 3-Qwest-2*.
233. AT&T, ICG, and WorldCom request that Qwest expand its points of interface to access sub-loop elements in its SGAT to include: Distribution facilities; Feeder facilities; FDI; MPOE; NID; Riser Cable in multistory buildings; Inside Wire; PDF; Wire Closets; Digital Loop Carrier cabinets; SPOI; Central Office Terminal, COSMIC, or MDF; Pole or Pedestal; and any other technically feasible element or point of interface. Qwest already has agreed to allow CLECs to access sub-loops at all technically feasible and accessible terminals in Qwest's outside plant. The current Qwest-developed sub-loop offerings are based on what Qwest believes will be the most likely requested access points. Qwest has had very limited demand for sub-loop unbundling. Given the extensive number of potential locations and points for interface that have been identified by the parties in reply comments, it is difficult for Qwest to anticipate how access to each point would best be achieved. Qwest recommends that the collocation process and procedures be used to establish network demarcation points. A clear network

demarcation point between Qwest and the CLEC would provide a design-to point, *i.e.*, for network design and inventorying. Once network demarcation points have been established, Qwest believes it can use many of the processes developed for its unbundled feeder and distribution sub-loop offering to provision the actual sub-loop. This approach is consistent with the FCC's recent orders. Qwest's goal with the new § 9.3 was to develop SGAT language that preserves the current sub-loop offerings for interested CLECs and that provides additional clarity about the willingness of Qwest to work with CLECs, using a Field Collocation offering, to meet the sub-loop unbundling needs of all CLECs. *Id.* at pages 26-27.

234. AT&T represented the FDI as coincident with DLC devices or nothing more than a basic interface junction on a pole. AT&T's testimony appears to confuse FDIs and DLCs. They are not the same. FDIs are nothing more than enclosures that provide the ability to cross-connect the feeder portion of the loop plant to the distribution loop plant. The DLC, on the other hand, performs the function of electronically concentrating many distribution loops onto a few feeder loops. Further, FDIs are not contained within the remote terminal containing the DLC device. In many cases, FDIs are not located next to remote terminal containing DLC devices. *Id.* at pages 27-28.
235. AT&T represented the drops as connected to the FDI. Typically, drops are not connected to FDIs as stated by AT&T. Pedestals and pole-mounted terminals are used to connect drops to distribution plant. *Id.* at page 28.
236. AT&T stated that the FDI can be located in a cabinet, hut, CEV, or other structure. Qwest does not place its FDIs within its remote terminal cabinets, huts, CEVs, or other



structure that contains electronics. The cross-connect function performed by the FDI requires no power and minimal environmental protection. Structures containing electronics require significant environmental hardening, power, and HVAC capabilities. Space in such structures can be conserved by disaggregating cross-connect functionality to a separate structure. Additionally, FDIs are typically placed near the neighborhoods they serve. Structures containing electronics may or may not be similarly situated. *Id.* at page 28.

237. AT&T argued the Qwest BFR process is a laborious procedure to use to access sub-loop elements. AT&T proposed that sub-loop elements and their corresponding access points should be incorporated into the SGAT without the BFR requirement regardless of actual demand. Qwest disagrees and notes that, while AT&T has little experience with Qwest's BFR process, AT&T's testimony supports the rationale for requiring a BFR process: "Qwest uses a wide variety of equipment types, configurations, and media in its local network." Qwest's network has evolved over many decades and certainly does consist of many equipment types and configurations. Qwest currently has over 70,000 cross-connect boxes in its network. An FDI, for example, may consist of many different flavors. That is, FDIs can be deployed in different sizes and can be purchased from different vendors. Vendors often have different options and features that can be ordered with the FDIs. This can impact how cables are placed into the FDI cabinet, where the splice takes place, the type of terminals contained within the cabinet, and the size of cement pad on which the cabinet is placed. Add local regulations tied to the size and, potentially, the appearance of the FDI cabinet, and it becomes apparent that even a

relatively common sub-loop access point can be difficult to establish due to the number of permutations. *Id.* at pages 29-30.

238. AT&T and WorldCom requested that Qwest provide access to sub-loop elements for all loop types, to include: two-wire copper, two-wire non-loaded copper, four-wire copper, DS1 carrier, DS3 carrier, and OC3 through OC-xx SONET over fiber. Qwest agrees to provide access to sub-loops for all loop types. However, for loops at DS3 and above, there is in reality only a “feeder” portion for each loop. The cost model for fiber-based loops does not have a traditional copper-based distribution portion. *Id.* at page 30.
239. AT&T requested that access to the distribution portion of loops to serve MDUs be identified as a unique distribution sub-loop element. Currently, all distribution configurations are averaged to create the unbundled two-wire distribution loop. This includes the high-density distribution loops that serve MDUs. If Qwest were to create a “de-averaged” sub-loop element for MDUs, it could result in a rate increase for other types of distribution sub-loops. Thus, AT&T is merely attempting further to de-average the loop elements. This is the wrong docket to raise this argument. Qwest proposes that, if it is determined in the cost docket that additional de-averaging is necessary for sub-loops, Qwest will de-average sub-loops consistent with unbundled loops de-averaging. Qwest believes the conceptual framework for sub-loops can be productively discussed in the Emerging Services Workshop. However, actual rate levels and potential rate changes for access to high density versus access to low density sub-loops could more productively be discussed in the context of a cost docket. *Id.* at pages 30-31.

240. AT&T proposed that Qwest provide access to existing and future types of distribution facilities including fiber to the curb applications. Qwest will provide CLECs access to the sub-loop distribution facility as defined by AT&T (facilities that run from the FDI to the NID). The distribution sub-loop media is copper. The fiber portion of Fiber to the Curb applications typically are feeder transmission paths, not distribution. As such, Qwest will provide CLECs with space to collocate or, where collocation space does not exist and the conditions for packet switching unbundling have been met will unbundle its packet switching network so that a CLEC can access customers provisioned on FTTC facilities. *Id.* at pages 31-32.
241. AT&T and ICG stated that the FCP does not provide equivalent access to sub-loop elements and requested a review of the FCP policy, applications, and processes, to include installation intervals and cost sharing among CLECs. ICG specifically asked that all references to the FCP be deleted from the SGAT. Qwest recommends that the FCP process and Field Collocation process be combined. In concept, the FCP is simply a splice point (network demarcation point) that could be created at numerous access points in the outside plant network to join the Qwest and CLEC networks. Qwest believes it is critical to retain the FCP concept and processes and cannot agree to the ICG request to remove all references to the FCP. *Id.* at pages 31-32.
242. The FCP is more appropriately analogous to the POI manhole in central office collocation. That is, the FCP is a splice location separating CLEC facilities from Qwest facilities. The FCP provides a demarcation point between networks. The location of the FCP is dependent upon engineering economies. There is no correlation, however, between the FCP and, as AT&T states, an IDF. Given its potentially limited space in

FDIs, Qwest had initially developed the FCP with the assumption that the CLEC would have to build a separate structure to terminate its network. By using the Field Collocation process, the CLEC would have the flexibility, for example, to “collocate” in the FDI if space permits and, potentially to eliminate the need for a separate structure. *Id.* at pages 32-33.

243. AT&T stated that Qwest has not provided any rates for sub-loop elements. Qwest has rates in the Colorado SGAT in Appendix A for sub-loop elements. *Id.* at page 33.

244. AT&T requested access to the high frequency portion of the distribution to provide DSL services. Qwest will allow collocation of DSLAMs and splitters in the field, space permitting. Thus, Qwest will unbundle technically feasible access to the high frequency portion of the distribution . *Id.* at pages 33-34.

## **5. Principal Workshop Discussions and Resolution**

245. Workshop 3 technical discussions on Emerging Services (access to dark fiber, sub-loops, line sharing, and packet switching) occurred during 10 separate sessions held on October 31, 2000; November 1, 2, and 3, 2000; December 12, 13, 14, and 15, 2000; and April 19 and 20, 2001.

246. A detailed summary of the discussions related to access to sub-loops can be found in the Colorado Issues Log included at Appendix A of this report and will not be repeated here for the sake of brevity. The discussions were protracted and exhaustive, and participants were given ample opportunity to flesh out their respective issues and to have them fully discussed.

247. During Workshop 3, the issues raised by participants in testimony or comments regarding the provisions of Qwest's SGAT were discussed and fully addressed. Except for the disputed issues that reached impasse, the issues were resolved by consensus among the participants. This consensus was often reached by Qwest's agreement to alter the SGAT provisions as requested by the participants, based upon the merits of the issues raised. In other cases, the participants accepted Qwest's rationale and justification for not agreeing to proposed changes.
248. With the exception of the impasse issues that are identified in succeeding paragraphs, there are no remaining disputes among participants regarding the sub-loop provisions of Qwest's SGAT.
249. The remaining portion of this section of the report describes the issues concerning sub-loops that could not be resolved by consensus of the participants during Workshop 3 and which reached impasse. The Commissioner will consider these issues in accordance with the dispute resolution process agreed to by the participants and ordered by the Commission for this proceeding. The results of the resolution of the impasse issues by the Commission will be presented in Volume IIIA in this series of Staff reports. The Commission's decisions in resolving the impasse issues will specify what the Commission believes is required of Qwest to achieve compliance with the requirements of the Act and the FCC with regard to the impasse issues.
250. The following is a brief description of the impasse issues related to sub-loops and is not intended to reiterate fully the positions of the parties with respect to these issues. The

parties' briefs are available to the Commission for its consideration in resolving the impasse issues.

## **6. Sub-Loop Impasse Issues:**

251. **Issue SB-16. Whether the SGAT provisions for access to sub-loop elements, specifically unbundled Network Interface Devices (NIDS) at Multiple Tenant Environment (MTE) terminals, are consistent with the Act and FCC rules.** AT&T argues that the FCC has redefined the NID in the *UNE Remand Order* and that Qwest is ignoring important distinctions made by the FCC, particularly with regard to MTEs and demarcation points. Qwest argues that this is simply a terminology issue and the fact that the SGAT applies different names to the terminals does not change the degree of access CLECs can obtain.
252. **Issue SB-17. Whether CLECs are required to submit local service requests to order sub-loops.** AT&T argues that the SGAT requirement that CLECs submit LSRs for access to sub-loops is discriminatory, expensive, relatively complex, and unnecessary in order to address Qwest's purported reasons for requiring LSRs. AT&T proposes an alternative method to address Qwest's concerns. Qwest argues that the submission of LSRs is the industry standard for placing wholesale orders. AT&T's proposal offers virtually no process and would dramatically increase Qwest's cost by requiring Qwest to build a manual process into its billing flow and would impede Qwest's ability to serve its retail customers.
253. **Issue SB-18. Whether an inventory of CLEC facilities must be created before CLECs may obtain access to sub-loop elements in an MTE terminal.** AT&T argues

that there is no practical purpose served by requiring CLECs to await the completion of an inventory of sub-loop terminations. The only purpose served is to provide information that is of operational value only to Qwest, while at the same time raising costs and delaying entry by potential competitors. Qwest argues that the inventory is a necessary prerequisite to allow CLECs to submit LSRs. Qwest has agreed to provide the inventory in five days and the inventory only applies to the first sub-loop order in an MTE.

254. **Issue SB-19. Whether Qwest must determine whether it owns the intrabuilding cable (inside wire) before a CLEC may access sub-loop elements. If so, whether Qwest's processes for determining such ownership are appropriate.** AT&T proposes that the CLEC may contact Qwest or the MTE owner, at its option, to determine who owns the on-premises wiring. Where the owner asserts ownership, the CLEC will negotiate with the MTE owner to determine where access will be made. If ownership is disputed, the CLEC will be allowed to obtain access notwithstanding the dispute. Qwest argues that it must make the ownership determination to identify when Qwest's network, and its maintenance and repair obligations, end and the customer premises facilities begin.
255. **Issue SB-20. Assuming Qwest's processes (including Qwest's determination of ownership, inventory of terminations, FCP, and collocation process) are appropriate, whether the intervals provided by Qwest for such processes are appropriate.** AT&T argues that Qwest's existing intervals must be clarified and that the longest interval for determination of ownership and inventorying by Qwest should not exceed 15 days. Qwest argues that its intervals of 10 calendar days for ownership

determination (which is fewer than is required by the FCC) and five calendar days for the inventory are reasonable and appropriate.

256. **Issue SB-21. Whether a CLEC is entitled to the option of having Qwest or the CLEC run the jumpers necessary to access sub-loops in MTE terminals regardless of the type of sub-loop ordered. Whether SGAT § 9.3.5.4.5 is the proper approach (for intrabuilding cable, the CLEC runs the jumpers; for other sub-loops, Qwest runs the jumpers).** AT&T takes the position that a CLEC should have the right to run the jumpers for access to any type of sub-loop in MTE terminals, and has the sole option of requesting Qwest to do so. This is consistent with current FCC requirements of unbundled access to any portion of the loop facility between two points of technically feasible access. Qwest argues that its SGAT provisions go well beyond the legal requirement for sub-loop unbundling and the existing policies of other ILECs such as BellAtlantic and SBC. The FCC allows the ILEC to take reasonable steps to protect its own equipment.
257. **Issue SB-23. Whether the rate for loop facilities on a campus, including cabling between buildings, should be the same as the rate for distribution sub-loop or be priced as a separate sub-loop element.** AT&T argues that Qwest's establishment of the sub-loop category of "intrabuilding cable," which specifically excludes cable that may exist on a customer's premises that may extend from or between buildings in a campus setting, is inappropriate. Qwest argues that its current cost studies average the distribution facilities that serve typical residences with the shorter distribution facilities that can occur in an MTE. Any attempt to deaverage the rates would have significant impacts to residential customers and would create perverse economic incentives.



258. **Issue SB-25. Whether Yipes is entitled to access fiber sub-loops at any technically feasible point or only at accessible terminals.** Yipes argues that the Act requires Qwest to provide access to fiber sub-loops at any technically feasible point, without the limitations included in the SGAT. Qwest argues that the FCC has been clear that sub-loop access is not required at any technically feasible point, but rather at a subset of technically feasible points, referred to as accessible terminals.
259. **Issue SB-27. Whether Qwest is required to establish a reservation process for an available sub-loop (other than dark fiber) while a FCP is created and established.** Yipes argues that Qwest should be required to establish a reservation process, as it has for dark fiber, for all other sub-loop facilities. Qwest argues that its systems cannot reserve sub-loop until a demarcation point is established. The establishment of an FCP creates the necessary demarcation point, and then Qwest can dynamically make facilities available on a first-come, first-served basis.
260. **Issue SB-30. Whether Qwest is required to make dark fiber, designated in Qwest's systems as interoffice facility (IOF) and built as IOF, available to CLECs for sub-loop applications.** AT&T has agreed to a compromise with Qwest that copper feeder and fiber sub-loops would be deemed "nonstandard" sub-loop elements and would be available only through the Special Request Process (SRP), so long as the SRP is a meaningful, efficient, and expedient mechanism. Qwest argues that sub-loop unbundling refers to portions of loop facilities, not portions of interoffice facilities and that Qwest has no obligation to provide access to fragments of loop facilities. There are no accessible terminals in Qwest's transport dark fiber.

## **7. Staff Compliance Assessment**

261. The technical discussions held during Workshop 3 concerning nondiscriminatory access to sub-loops were exhaustive, with participants having ample opportunity to raise their issues and to have them thoroughly discussed. Additionally, testimony, comments, and exhibits comprise the record of this investigatory proceeding.
262. The primary focus of the workshop was to address the terms and conditions of Qwest's SGAT to assess the adequacy of Qwest's concrete and specific legal obligation to provide nondiscriminatory access to sub-loops in accordance with the requirements of the Act and the FCC. The workshop discussions provided Staff the opportunity to hear in detail the positions of the participants regarding the multitude of issues that arose and to evaluate the appropriateness of compromises that were crafted to resolve disagreements by consensus of the participants. The terms and conditions of Qwest SGAT were thoroughly and rigorously reviewed.
263. For the previously described issues that reached impasse, briefs were filed by participants. The Commission will consider these briefs and other information, as may be requested by the Commission, and will resolve these disputes through the dispute resolution process ordered by the Commission in this docket. The Commission's decisions to resolve the issues in dispute will be incorporated into Volume IIIA in this series of Staff reports.
264. Subject to the Commission's resolution of the issues in dispute (which will reveal the Commission's decision regarding what is required for compliance regarding these issues), a demonstration that those decisions have been implemented, and a

demonstration that Qwest has rewritten the SGAT to incorporate the agreements reached in the workshop, Staff's assessment is that the terms and conditions of Qwest's SGAT otherwise meet the requirements of the Act and the FCC with regard to the provision of nondiscriminatory access to sub-loops to competitors. This assessment is based upon the testimony, comments, exhibits, and workshop discussions.

265. Except for the impasse issues, the terms and conditions of Qwest's SGAT regarding access to sub-loops are not otherwise disputed by participants.
266. The determination of whether the SGAT rates for unbundled sub-loops are just and reasonable will be made by the Commission in the companion cost docket proceeding (Docket No. 99A-577T).
267. Qwest must also demonstrate that it currently furnishes, or is ready to furnish, access to sub-loops in quantities that competitors reasonably may demand and at an acceptable level of quality. To assess Qwest's current performance, this Commission will rely on the results of the ROC OSS Test and other evidence, including Colorado-specific commercial usage experience of competitors, that may be brought to the Commission's attention.
268. Staff will provide its assessment of Qwest's actual performance with respect to unbundled network elements at such time as the ROC OSS Test results and any other evidence are incorporated into this proceeding.

## C. LINE SHARING

### 1. FCC Requirements

269. Under § 271(c)(2)B(ii) of the Act, ILECs must provide nondiscriminatory access to network elements in accordance with the requirements of §§ 251(c)(3) and 252(d)(1). Section 251(c)(3) requires, in turn, that access to UNEs be provided "on rates, terms and conditions that are just, reasonable and nondiscriminatory." In the *UNE Remand Order*, the FCC characterized the specific market-opening mechanisms of § 251 of the Act, including the unbundling requirements, as "central to the new statutory scheme" of the Act and as designed "generally to reduce inherent economic and operational advantages possessed by incumbent local exchange carriers." *UNE Remand Order* ¶ 3. The FCC also recognized that, "[d]espite the development of competition in some markets, incumbents still control the vast majority of the facilities that comprise the local telecommunications network, giving them advantages of economies of scale and scope not enjoyed by competitive LECs." *Id.* at ¶ 13. Further, the FCC noted that its unbundling rules are "designed to facilitate the rapid and efficient deployment of all telecommunications services, including advanced services." *Id.* at ¶ 14.
270. The access to emerging service requirements was the result of the *UNE Remand Order* and the *Line Sharing Order*. The *Line Sharing Order* added the requirement that ILECs provide access to the high frequency portion of the loop, and the *UNE Remand Order* added the requirements for sub-loop unbundling, access to dark fiber, and limited access to unbundled packet switching.

271. On December 9, 1999, the FCC released its *Line Sharing Order*. This order amended its unbundling rules to require ILECs to provide unbundled access to the high frequency portion of copper loops in certain situations. The unbundling of the high frequency portion of the loop enables a CLEC to offer advanced services over that portion of the loop at the same time the ILEC is using the voice frequency portion of the loop to provide analog, circuit-switched voice services. This joint use of copper loops by both ILECs and CLECs is commonly referred to as line sharing.
272. ILECs are required to provide access to the high frequency spectrum of the local loop to a single requesting carrier, on loops that carry the ILEC's traditional voice-grade POTS, to the extent that the xDSL technology deployed by the CLEC does not interfere with the analog voiceband transmissions. *Line Sharing Order* at ¶¶ 70 and 74. xDSL service can be added to a local loop by installing a "splitter" at the customer's premises and at the central office or remote terminal. A splitter is an electronic device that bifurcates the digital and voiceband signals concurrently traversing the local loop, directing the voice band signal through a pair of copper wires to the switch and directing the digital traffic through another pair of copper wires to a DSLAM attached to the packet-switched network. *Id.* at ¶ 66.
273. The FCC rules<sup>4</sup> state:
- (1) The high frequency portion of the loop network element is defined as the frequency range above the voiceband on a copper loop facility that is being used to carry analog circuit-switched voiceband transmissions.
  - (2) An incumbent LEC shall provide nondiscriminatory access in accordance with Section 51.311 of these rules and Section 251(c)(3)

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<sup>4</sup> 47 C.F.R. 51.319(h)

of the Act to the high frequency portion of a loop to any requesting telecommunications carrier for the provision of a telecommunications service conforming with Section 51.230 of these rules.

- (3) An incumbent LEC shall only provide a requesting carrier with access to the high frequency portion of the loop if the incumbent LEC is providing, and continues to provide, analog circuit-switched voiceband services on the particular loop for which the requesting carrier seeks access.<sup>4</sup>

274. The FCC determined that ILECs would require a period of time to implement the OSS and loop facility modifications needed to support line sharing. Specifically, the FCC concluded that ILECs should be able to make these modifications and to begin providing line sharing within 180 days of the *Line Sharing Order*. The FCC urged the ILECs to make access to the high frequency portion of the loop available to requesting carriers as of June 6, 2000.

## 2. Qwest's Position

275. On September 1, 2000, Qwest witness Karen A. Stewart filed an affidavit concerning emerging services now available to CLECs in Colorado, including line sharing. *Exhibit 3-Qwest-1*.

276. Qwest has a concrete and specific legal obligation to provide line sharing in Colorado. The legal obligation comes in two forms: (1) an interim business agreement negotiated with interested CLECs and (2) Qwest's Colorado SGAT. As to the first, to satisfy promptly the requirements of the Line Sharing Order, Qwest and interested CLECs

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<sup>4</sup> 47 C.F.R. 51.319(h)

negotiated an interim business agreement (signed on April 24, 2000) to govern the deployment of line sharing in 13 of Qwest's states, including Colorado. The interim business agreement includes provisioning and maintenance processes and interim rates associated with the line sharing elements. *Exhibit 3-Qwest-1* at pages 6 and 7.

277. As part of the interim business agreement, Qwest allowed CLECs to prioritize which Qwest central offices would first be deployed with line sharing bays, equipment, and cabling. In this regard, the CLECs developed a list of 349 central offices across the 13 states covered by the interim business agreement in which Qwest agreed to install, on a staggered basis, the equipment and facilities needed to support line sharing. Per the interim business agreement, the initial groups of central offices were equipped for line sharing by May 15, 2000, and the last group of central offices was scheduled for completion on July 31, 2000. *Id.* at page 7.
278. As of July 31, 2000, Qwest had equipped 100 percent of the 349 prioritized central offices. Specifically in Colorado, the interim business agreement committed Qwest to have line sharing equipment installed in 54 central offices in Colorado. Additionally, Qwest stands ready to accept applications from any CLEC with line sharing in its interconnection agreement to equip central offices not on the initial prioritization list. Applications to equip additional central offices will be processed utilizing the collocation application process. *Id.* at pages 7-8.
279. In those central offices in Colorado already equipped for line sharing, Qwest is now accepting Shared Loop orders. As of August 11, 2000, Qwest had received 15 orders for

Shared Loop in Colorado. Moreover, Qwest is prepared to meet the current and foreseeable demand in Colorado. *Id.* at page 8.

280. Qwest provided the Commission with a copy of the interim business agreement during the week of April 24, 2000, and invited Commission staff to attend a question and answer session via a telephone conference call on April 28, 2000. In addition, Qwest mailed a copy of the interim business agreement to each wireline CLEC (with which it had an interconnection agreement) in its region. This mailing included instructions on how to “opt in” to the agreement by simply counter-signing the cover letter and mailing it back to Qwest. *Id.* at pages 8-9.
281. Qwest is in the process of negotiating state-specific, CLEC-specific interconnection agreement amendments based on the terms and conditions contained in the interim business agreement. The specific amendment language has been agreed to in principle, and Qwest is currently preparing the amendments for each CLEC’s signature. Any CLEC that is a party to the interim business agreement can continue to obtain line sharing from Qwest under that agreement until the interconnection agreement amendments have been executed. *Id.* at page 9.
282. Qwest’s Colorado SGAT also contains explicit line sharing (*i.e.*, shared loop) language and thereby creates a binding legal obligation for Qwest to provide line sharing in Colorado. The Colorado SGAT states in § 9.4.1: “Line Sharing provides CLEC with the opportunity to offer advanced data services simultaneously with an existing end user’s analog voice-grade (POTS) service on a single copper loop referred to herein as the ‘Shared Loop’ or ‘Line Sharing,’ by using the frequency range above the voice band on



the copper loop. This frequency range will be referred to herein as the High Frequency Spectrum Network Element (HUNE). A POTS splitter separates the voice and data traffic and allows the copper loop to be used for simultaneous data transmission and POTS service. The POTS service must be provided to the end user by Qwest.” Qwest further defines the specifications, interfaces, and parameters associated with the Shared Loop product in Technical Reference Publication Nos. 77380 through 77389. In addition, the IRRG provides CLECs with product information, rates, and availability. CLECs can access the IRRG at URL: <http://www.uswest.com/wholesale/>. *Exhibit 3-Qwest-1* at pages 9-10.

283. In a line sharing (Shared Loop) arrangement, one copper loop can carry both voice and data traffic simultaneously. Through the separation of the voice frequency from the data frequency, Qwest provides voice service to the end user using the voice band frequencies while the CLEC provides an approved data service on the frequency range above the voice band. The FCC recognized the potential for data services to degrade existing analog voice services and, therefore, required that ILECs only provide line sharing to the extent that the xDSL technologies deployed by the CLEC are presumed to be compatible with analog voice service. Such presumed services currently are limited to ADSL, RADSL, and Multiple Virtual Line transmission systems. In the future, additional technologies may be used by CLECs to the extent those services are deemed acceptable for line sharing deployment under applicable FCC rules. *Id.* at pages 10-11.
284. Implementing a line sharing arrangement requires the installation of new equipment in the central office, including a POTS splitter that splits the voice and data traffic, sending the voice traffic to Qwest and the data traffic to the CLEC. In addition, new cross-

connect systems, cabling, and terminal blocks are required in the central office to route the voice and data traffic separately. Generally, in a line sharing arrangement, just as with POTS, the copper loop comes into the central office from a home or business and connects to the COSMIC or MDF. From there, however, the path the loop follows changes significantly. The loop is cross-connected and routed to an IDF, which, in turn, is cross-connected and then routed to a POTS splitter. The POTS splitter literally splits the voice and data traffic into two distinct transmission paths, thereby allowing the voice traffic to be carried to the Qwest switch and the data traffic to be carried to the CLEC's collocation space. A POTS splitter is a passive device, meaning it does not require external power to perform its function. In the event of a power loss, the voice calls passing through the POTS splitter will remain functional, relying on central office back-up power systems, thus ensuring that critical services (such as 911 and operator services) are still available. *Id.* at pages 11-12.

285. A key network architecture decision in implementing line sharing is where to place the POTS splitter in the central office. Generally, there are two alternatives: (1) placement of the POTS splitter in a common area, such as a relay rack near the IDF or (2) placement of the POTS splitter in the CLEC's collocation space. Qwest allows CLECs to choose either alternative, providing them the flexibility to meet specific business needs. These choices are, of course, dependent upon space availability and engineering economy. For example, central offices of fewer than 10,000 lines may require placement of common area POTS splitters on an MDF or an existing Qwest relay rack. Using the architecture in which the POTS splitter is placed in a common area, the CLEC purchases the POTS splitter, or Qwest will purchase the POTS splitter for CLEC subject to reimbursement by

the CLEC. Qwest is responsible for installing the POTS splitter in the common area. Qwest also has responsibility for the maintenance and repair of the POTS splitter. This placement in the common area allows multiple CLECs to mount individual splitter shelves in a common bay and/or relay rack. In this arrangement, two Interconnection Tie Pairs and four TIE Cables are needed to connect the POTS splitters to the Qwest network. One ITP carries both voice and data traffic from the COSMIC/MDF loop termination to an appropriate IDF. From this frame, one TIE Cable carries both voice and data traffic to the POTS splitter. The voice and data traffic are then separated at the POTS splitter, and the separated voice and data traffic are transported to the IDF via separate TIE Cables (*i.e.*, the second and third TIE Cables). At the IDF, the data traffic is routed to the CLEC's collocation area via a fourth TIE Cable; and the voice traffic is transported to the switch port termination via a second ITP. If the CLEC wants direct connections from the COSMIC to the POTS splitter, that architecture is also available. *Id.* at pages 12-13.

286. The second alternative available to CLECs is placement of the POTS splitter in the CLEC's collocation space. Once the CLEC installs the POTS splitter, two ITPs and two TIE Cables are needed to connect it to the Qwest network. One ITP carries both voice and data traffic from the COSMIC/MDF loop termination to an appropriate IDF. From this frame, one TIE Cable carries both voice and data traffic to the POTS splitter located in the CLEC's collocation space. The voice and data traffic are separated at the POTS splitter. The data traffic is connected to the CLEC's network within its collocation area. The voice traffic is then carried to the switch port termination, via the IDF, using a second TIE Cable and a second ITP. There are numerous practical reasons for placing the POTS splitter in the CLEC's collocation space. First, the CLEC has complete control

over acquisition and installation of the POTS splitters and has responsibility for the maintenance and repair of the splitters. Second, this placement is less complicated than placing the POTS splitter in a common area of the central office because it often requires placing two fewer TIE cables in the central office. Hence, it involves fewer cross-connects and, therefore, substantially less installation time. *Exhibit KAS-5* shows a diagram of a POTS splitter placed in a CLEC's collocation area. Again, in this situation if a CLEC wants direct connections from the COSMIC to the POTS splitter, that architecture is available. *Id.* at pages 13-14.

287. Qwest has documented methods, procedures, and standards for CLECs to access shared loops. All shared loop provisioning and maintenance methods and procedures have been documented. Extensive shared loop provisioning information is made available to CLECs on-line in Qwest's Wholesale Web site. Moreover, the initial process to access shared loops has been directly communicated to the CLECs who have signed the interim business agreement. Prior to the actual provisioning of a CLEC's first shared loop order in a central office, a POTS splitter must be installed. POTS splitter installation, cable augmentations, and other work within the central office needed to support line sharing may be ordered at the same time as a new collocation space utilizing a single collocation application form. Once a POTS splitter has been installed in a central office, Qwest will provision the shared loop arrangement within the same standard interval as for the unbundled loop. After using the Loop Qualification tool in IMA, the CLEC will submit an LSR similar to the process used for unbundled loops. Basic Installation "lift and lay" procedures will be used for all shared loop orders. Under this approach, a Qwest technician "lifts" the loop from its current termination in a Qwest Wire Center and "lays"

it on a new termination connecting it to the CLEC's collocated equipment in the same central office. *Id.* at pages 14-16.

288. To support line sharing, Qwest's standard unbundled loop ordering and provisioning processes have been modified to reflect the fact that both Qwest and a CLEC are now serving one end user. The presence of two carriers for one end-user has a substantial impact on the OSS ordering and provisioning processes. Qwest must modify the systems that support these processes to allow the CLEC to pass additional pieces of data that will be used to designate: the CLEC's identity; that the request is for line sharing; the specific loop that will be shared; the meet points for the shared loop (the POTS splitter and port location); and the power density mask that the CLEC pre-specifies on the LSR. In addition, the ordering and provisioning systems must recognize the line sharing information and, based on that information, direct data and actions of other downstream systems. Many of these systems must now house CLEC-specific records and end-user-specific records that must be correlated. For example, such correlation of CLEC and end-user records is necessary to carry out functions relating to billing and repair. The inventory and assignment systems must also recognize the line sharing data, be able to handle additional inventory meet points from the CLEC, and direct the inventory information to the appropriate systems. *Id.* at pages 16-17.
289. Qwest will be responsible for repairing both the voice services provided over the shared loop and the physical line between the network interface device at the end user premise and the point of demarcation in the Qwest central office. Qwest also will be responsible for inside wiring at the end user premises in accordance with the terms and conditions of inside wire maintenance agreements, if any, between Qwest and its end users. Qwest will

allow the CLEC to access shared loops at the point where the combined voice and data loop is cross-connected to the POTS splitter. The CLEC will be responsible for repairing data services provided on shared loops. Qwest and the CLEC each will be responsible for maintaining its own equipment. The entity that controls the POTS splitter will be responsible for its repair and maintenance. Qwest and the CLEC will have the responsibility for resolution of any service trouble report(s) initiated by their respective end users. If an end user complains of a voice service problem that may be related to the use of a shared loop for data services, Qwest and the CLEC will work together with the end user to solve the problem to the satisfaction of the end user. Qwest will not disconnect the data service provided to an end user over a shared loop without the written permission of CLEC unless the end user's voice service is so degraded that the end user cannot originate or receive voice telephone calls. *Id.* at pages 17-18.

290. Qwest is participating in the ROC TAG to identify performance measurements for line sharing. The ROC TAG has determined there will be no additional measurements for shared loops. The ROC TAG currently is determining which of the existing performance measurements will be further disaggregated to include product level reporting for shared loops. However, nothing has been done to exclude the shared loop LSRs from the general PIDs. For example, PO-4-LSRs rejected would include information on shared loop LSRs rejected for any reason. *Id.* at page 18.

### **3. Competitors' Positions**

291. On October 11, 2000, AT&T filed its Errata filing of Initial Comments for the Emerging Services workshop. *Exhibit 3-ATT-1*. In this filing, AT&T outlined its concerns with

Qwest's SGAT language and provisioning practices for line sharing and line splitting. The FCC requires Qwest to allow CLECs, including the so-called data local exchange carriers, access to the high frequency spectrum of the local loop. *Line Sharing Order* at ¶ 16. These obligations take several forms:

- Qwest must allow CLECs and DLECs to place splitters on loops over which Qwest provides voice telephone service so that the CLECs and DLECs can offer DSL services.
- Qwest must allow collocation of DSLAM equipment where loops are being provided using DLC.
- Qwest must allow CLECs to provide voice and high-speed data service over unbundled loops.
- Qwest must allow CLECs to add splitters to customers' loops where service is being provided to the end user by AT&T using UNE-P service.
- Qwest must offer a UNE-P arrangement with splitter where the loop being requested already has the splitter installed.
- Qwest should be required to place splitters which Qwest would own on loops and allow AT&T to order those loops as UNE-P, line by line.

*Exhibit 3-ATT-1*, at pages 18 and 19.

292. Qwest must offer all of these capabilities under rates, terms, and conditions that are just, reasonable, and nondiscriminatory. Qwest is imposing serious impediments on CLECs with respect to line sharing. *Id.* at page 19.

293. Qwest presents its proposal for line sharing in § 9.4 of its SGAT. The Qwest proposal is based on the Interim Line Sharing Agreement that Qwest made with a number of CLECs from 13 states on April 24, 2000. The SGAT that Qwest filed in Colorado on August 1, 2000, offers direct connection between a CLEC-provided splitter and the Qwest COSMIC or MDF in § 9.4.2.2.3.2. This has a few problems that would be unreasonably costly to the CLEC. First, the paragraph requires the CLEC to trunk to every module on the COSMIC. This is unreasonable and would force the CLEC to incur the cost of too many cables to the COSMIC and would use up capacity on the COSMIC too quickly. Qwest should allow for a more reasonable build-out, such as provisioning cables to every other or every third module on the COSMIC/MDF. *Id.* at page 22.
294. Second, Qwest requires the CLEC to do a special Mechanized Engineering and Layout for Distributing Frame run for the CLEC's build-out to the COSMIC frame. A MELD run provides information to Qwest OSS as to how connections can be made efficiently on the COSMIC. Qwest does MELD runs for multiple purposes on each of its COSMIC frames. For example, MELD runs would be needed for the inclusion of splitters and DSLAM equipment for Qwest's DSL product. Qwest should simply put CLEC needs for connections to the COSMIC into a planned MELD run and not require the CLECs to fund a separate MELD run. A MELD run costs thousands of dollars. Requiring CLECs to fund separate MELD runs is not necessary and is a barrier to entry. *Id.*
295. While SGAT § 9.4.2.2.3.2 provides for direct connection when the splitter is in the CLEC collocation area, Qwest has not provided for direct connection when splitters are placed in a common area of the central office. Section 9.4.2.3 requires this configuration to use an ICDF. The ICDF is unnecessary in this configuration. Direct connections can be



made from the COSMIC/MDF to common splitter bays. This is more efficient for CLECs and more efficient for Qwest. *Id.* at page 23.

296. Qwest proposes new rate elements and interim prices in its SGAT for line sharing. AT&T does not agree with all of the rate elements that Qwest is proposing or with the prices that Qwest has suggested. For instance, AT&T does not agree that the OSS charge in § 9.4.3.1.2 should be included as a rate element. AT&T also does not feel that a charge for “TIE Cable Re-designation” is warranted. This charge, according to §§ 9.4.3.3 and 9.4.4.3, relates to the use of the TIE Cable from the ICDF to the CLEC’s collocation. This cable, in the ICDF configuration, is the responsibility of the CLEC. Qwest does not need to know how the cable is being used. There should be no charge from Qwest regarding changes in use for this cable. Section 9.4.4.3 further discusses the reclassification of CLEC TIE0 cables. As discussed above, such reclassification is not necessary. Qwest must explain why this step is a requirement. *Id.* at page 23.

297. AT&T states that, while Qwest has provisions for line sharing in the SGAT, there is no mention of the FCC-required line splitting. Line splitting occurs when the ILEC insets a splitter into a UNE-Loop so that a UNE-P CLEC may provide both voice and data services, either on its own or with another CLEC, utilizing a single loop facility terminating at the customer’s premises. In the *SBC Texas Order* at ¶ 325, the FCC stated:

[I]ncumbent LECs *have an obligation to permit competing carriers to engage in line splitting over the UNE-P* where the competing carrier purchases the entire loop and provides its own splitter. The record reflects that SWBT allows competing carriers to provide both voice and data services over the UNE-P. For instance, if a competing carrier is providing voice service over the UNE-P, it can order an unbundled xDSL-capable

loop terminated to a collocated splitter and unbundled switching combined with shared transport to replace its UNE-P configuration with a configuration that allows provisioning of both data and voice service. SWBT provides the loop that was part of the existing UNE-P as the unbundled xDSL-capable loop, unless the loop that was used for the UNE-P is not capable of providing xDSL service.

*Exhibit 3-ATT-1* at pages 23 and 24 (emphasis supplied).

298. Qwest makes no offer to provision line splitting in its SGAT. It should be required to do so. In addition, Qwest should be required to own and deploy splitters and make them available on a line-at-a-time basis. Requiring line-at-a-time splitters, owned by Qwest, makes technical and practical sense. Line-at-a-time architecture is as follows: (1) the outside plant facility from the customer's premises is brought to the Main Distribution Frame at the ILEC's serving central office; (2) the outside plant facility is cross-connected from its appearance on the MDF to the splitter input; (3) the HFS output of the splitter (which could have either an appearance on the MDF or be connected to an intermediate distributing frame) is cross-connected to a CLEC's DSLAM (which, in a central office deployment, is generally within a collocation space and would be cabled out to a frame appearance); and (4) the voice loop (the low frequency output) of the splitter is cross-connected to the switched network (*e.g.*, the local switching UNE). The outputs from the splitter establish separate paths for the voice and data streams that operate independently from one another, but are carried together within a single outside plant facility. *Id.* at pages 24 and 28.
299. When line-at-a-time splitter deployment is supported, CLECs can pre-wire their data networks (*i.e.*, DSLAMs) to the same frame where the high frequency output of the splitters terminates. Likewise, the input terminal for the splitter input (*i.e.*, where the

outside plant terminates) and the voice frequency output of the splitter (to the extent the splitter is remotely located from the MDF) can be pre-wired to the MDF. As a result, when initial service is requested only three cross-connections must be worked: (1) from the outside plant to the splitter input; (2) from the splitter voice output to the switch port; and (3) from the splitter data output to the data CLEC's network's appearance on the frame. This involves only one additional cross-connection (connection (3) above) at the time of service provisioning for line splitting than is required when Qwest engages in line sharing. *Id.* at page 31.

300. The numerous operational advantages make it clear that Qwest should be required to provide the line-at-a-time option to CLECs. These benefits will only increase as more customers seek to have their voice and Internet access service provided over a single line. Any claims by Qwest that the benefits of the line-at-a-time approach have been compromised by the initial deployment of splitters consistent with line sharing should be disregarded. DSL is in its infancy, and significant increases in demand are expected. For example, the DSL market is estimated to grow to 2.5 million lines by the end of 2000. This growing demand will necessitate additional splitter deployment. Thus, requiring that Qwest provide splitters on a line-at-a-time basis now will allow CLECs to switch to this option early on in the deployment of DSL services rather than later. *Id.* at pages 32 and 33.

301. None of this, however, means that CLECs should be denied the ability to deploy their own splitter shelves if this is the route they wish to take. However, Qwest should not be permitted to offer only CLEC owned, shelf-at-a-time splitter deployment since delivery of splitters on a line-at-a-time basis offers CLECs a very efficient and cost effective

option that is technically feasible and highly conducive to the development of competition. *Id.* at pages 33 and 34.

302. Mr. Thomas T. Priday filed Direct Testimony on Emerging Services on behalf of WorldCom on October 11, 2000. *Exhibit 3-WCom-1*. In this testimony, Mr. Priday asserts that, in ¶ 71 of Decision FCC 99-235, ILECs are required to provide unbundled access to the high frequency portion of the loop to any carrier that seeks to deploy any version of xDSL that is presumed to be acceptable for shared-line deployment. Section 9.4.2.1.3 should be modified. *Exhibit 3-WCom-1* at page 11.
303. Further, the forecasting requirements in § 9.4.2.1.7 place an undue administrative burden upon the CLEC and may also require the CLEC unnecessarily to disclose confidential information to the detriment of the CLEC. General forecasting requirements are specified in § 3.0 of the SGAT. The forecasting requirements which are finally agreed upon as part of review in this docket should be applicable to the services provided under the SGAT, without need for additional forecasting requirements specified elsewhere that may be unduly burdensome, either administratively or with regards to the unnecessary disclosure of confidential or proprietary information, on the CLEC. *Id.* at page 12.
304. In addition, before a forecast is provided to Qwest, WorldCom feels that it is only fair that CLECs understand (1) how Qwest will use the forecast for planning future facilities and (2) what commitment Qwest will make to ensure facilities are in place when CLECs place orders for the needed facilities. Without a Qwest commitment to have “some skin in the game,” WorldCom questions why it should dedicate precious resources to the development of a forecast. Accordingly, § 9.4.2.1.7 should be modified. *Id.*

305. In its Supplemental Comments, filed December 5, 2000, WorldCom expresses further concerns with Qwest's proposed SGAT language. *Exhibit 3-WCom-2* at page 2. WorldCom believes that, for § 9.4.2.1.1 concerning splitter ownership, the parties to the workshop had agreed to add language that is not included. This must be corrected. *Id.* at page 2.
306. In § 9.4.2.1.7 concerning forecasting, Qwest needs to respond to WorldCom's larger forecasting issues. WorldCom seeks consistency in forecasting from product to product (*i.e.*, consistent time periods, format, and so forth) and a commitment from Qwest regarding how forecasts will be used by Qwest and what specific actions will be taken by Qwest on the basis of the CLECs' forecasts. WorldCom also proposes specific wording regarding confidentiality of CLEC forecast information. None of these issues is addressed in the latest SGAT language provided by Qwest. *Id.* at page 3.
307. Covad also filed comments (*Exhibit 3-Covad-1*) on line sharing and line splitting. Covad commends Qwest's willingness and efforts to enter into a line sharing agreement with CLECs but still has concerns about implementation. Covad has experienced trouble getting its line sharing orders provisioned. In particular, the issues of (1) incorrectly wired splitters, (2) missed cross-connects, and (3) lack of training, both for technicians and repair and maintenance personnel, must be resolved. *Id.* at pages 12 and 13.
308. The SGAT language of § 9.4.2.1.3 and Ms. Stewart's affidavit (*Exhibit 3-Qwest-1*) appear to be in conflict regarding who provides the splitter. The SGAT states that the CLEC *must* provide the splitter. The *Line Sharing Order*, however, does not require that CLECs provide the splitter. Additionally, Ms. Stewart's affidavit, at page 12, states that

either the CLEC may purchase the splitter or reimburse Qwest for the purchase. Covad requests clarification of Qwest's position. *Exhibit 3-Covad-1* at page 13.

309. On page 12 of Ms. Stewart's affidavit, she states that central offices of fewer than 10,000 lines may require placement of common area POTS splitters on an MDF or an existing Qwest relay rack. Qwest has installed these kinds of splitters in offices larger than 10,000 for several CLECs. Covad suggests that Qwest provide this option on a nondiscriminatory basis to all CLECs by adding comparable language to the SGAT. *Id.*
310. On pages 13-14, Ms. Stewart's affidavit indicates that CLECs may directly connect from the COSMIC to the POTS splitter regardless of whether the splitter is in the common area or in the CLEC's collocation area. SGAT § 9.4.2.2.3.2, however, mentions direct connections for splitters located in the CLEC's collocation area only. An option to connect the data output of the common area splitter directly to the CLEC collocation should be included in the SGAT. *Id.*
311. The provisioning of line-shared loops undeniably requires less work and less time than the provisioning of a stand-alone loop. The cable pair and the central office equipment information are already known, and the actual provisioning requires little more than removing a cross-connect and replacing it with two cross-connects in the line sharing context. Qwest, however, is proposing the *same* provisioning interval of five days for both stand-alone and line-shared loops. Such an elongated interval for line-shared loops places CLECs at a competitive disadvantage. Qwest is able to continue to provision its own line-shared product (as it has for years) in a reduced time frame while holding its competitors, such as Covad, hostage to the provisioning interval of a stand-alone loop.

The SGAT should include a reduced provisioning interval for line-shared loops, which includes a one-day interval commencing on January 1, 2001. *Id.* at pages 13 and 14.

312. *Exhibit 3-Covad-7* was filed on December 6, 2000. This filing contains Covad's Supplemental Comments for the Emerging Services Workshop. In these supplemental comments, Covad takes issue with paying for line conditioning generally. In a forward-looking network, load coils and excess bridged tap should not exist within 18 kilofeet of a central office. *Id.* at page 3.
313. Qwest is implementing a bulk de-loading (conditioning) program in certain areas of its network. This effort was undertaken without input from the CLEC community regarding the markets to be de-loaded; probably, this effort was undertaken, at the direction of Qwest's data marketing organization. In fact, the only input Qwest requested from CLECs was information regarding prioritizing central offices within a Qwest-chosen market. *Id.* at pages 3 and 4.
314. Although it is possible that CLECs may, in some cases, benefit from this program, it is likely that Qwest will be the primary benefactor. For this reason and in light of the fact that CLECs were not involved in the development of this program, it is not appropriate for CLECs to subsidize the entire program that benefits Qwest's vast product lines. *Id.* at page 4.
315. From a business perspective, however, Covad is interested in reducing costs where it can. If it is determined that Covad must pay for conditioning and it is subsequently given the choice of paying \$85.00 for a conditioned loop versus paying some extremely nominal

charge based upon market share or comparable analysis, Covad clearly would choose the lesser amount. *Id.*

316. In addition, Covad expresses continued concern about Qwest's proposed line sharing provisioning interval. To date, order completion is taking over 30 days on average. This interval is unacceptable. The major problem is incorrect or missing cross-connects. With proper training of central office technicians and the establishment of adequate testing procedures for the voice and data, intervals can come down dramatically. If Qwest were to provide assurances of proper wiring and testing, an interval greater than one day might be acceptable. Covad proposes a “stepped-down” or graduated line sharing interval, reducing the interval from three days to one day over a six-month period. Any interval in excess of five days is totally inappropriate, and Qwest has failed to justify its unnecessarily long intervals. *Id.* at pages 4 and 5.

317. Finally, Covad asserts that, upon completion of the central office cross-connects for a line-shared service, Qwest must make the necessary tests to ensure that both the voice and data services are properly wired in the central office. The voice service should be tested using the ANI capability and the data should be tested in the same manner Qwest currently tests its own data service. This test is accomplished by using a router to do a synchronization check from the MDF to the DSLAM. This testing approach is the only way to confirm that the shared service order has been completed properly. *Id.* at page 5.

318. Covad filed further supplemental comments on April 2, 2001, to address additional line sharing provisions. With the release of the *Line Sharing Reconsideration Order* in January, 2001, the FCC made it clear that “the requirement to provide line sharing applies



to the entire loop, even where the incumbent has deployed fiber in the loop (*e.g.*, where the loop is served by a remote terminal).” Thus, despite its use of the word “copper” in the *Line Sharing Order*, the FCC made clear that “use of the word ‘copper’ in section 51.319(h)(1) was not intended to limit an incumbent LEC’s obligation to provide competitive LECs with access to the fiber portion of a DLC loop for the provision of line-shared xDSL services.” As the FCC explained in the *Line Sharing Reconsideration Order* at ¶ 11, this clarification was necessary in order to prevent incumbent LECs from closing off competition by migrating its service to fiber:

In the absence of this clarification, a competitive LEC might undertake to collocate a DSLAM in an incumbent’s central office to provide line-shared xDSL services to customers, only to be told by the incumbent that it was migrating those customers to fiber-fed facilities and the competitor would now have to collocate another DSLAM at a remote terminal in order to continue providing line-shared services to those same customers. If our conclusion in the *Line Sharing Order* that incumbents must provide access to the high frequency portion of the loop at the remote terminals as well as the central office is to have any meaning, then competitive LECs must have the option to access the loop at either location.

*Exhibit 3-Covad-9* at pages 2 and 3.

319. In response to the *Line Sharing Reconsideration Order*, Qwest proposed language for SGAT § 9.4.1.1. The proposal is unacceptable. *Id.* at page 3.
320. Qwest’s definition limits line sharing to the “copper portion of the loop.” SGAT § 9.4.1.1. Because that definition is flatly inconsistent with the FCC’s unambiguous statements in the *Line Sharing Reconsideration Order*, Qwest must revise SGAT § 9.4.1.1 to eliminate any reference to the “copper portion” of the loop. SGAT § 9.4.1.1 is deficient for two additional reasons: (1) The clear import of sentences two and three is to require CLECs to deploy DSLAMs remotely. As made clear previously, Covad

believes that Qwest is obligated to provide unbundled access to any NGDLC or NGDLC functionality (including remote DSLAMs), thereby obviating the need for CLECs to deploy DSLAMs remotely and to lease fiber transport from the central office to the remote terminal. Therefore, Covad strongly urges Qwest to recognize its obligation to provide unbundled access to the NGDLC and functionalities, and to delete the second and third sentences of this paragraph. (2) With respect to the fourth sentence, while Covad does not object to the intent of this sentence *per se*, Covad has two specific objections. First, to the extent that Qwest deploys any line sharing technology or transport mechanism in the future, access to such future developments should be automatically and immediately available to CLECs, to the extent it is technically feasible. Absent such a requirement, during the time period in which Qwest's obligation to provide that access is clarified by the FCC or this Commission, Qwest likely will be able to capture much of the market made available by the improvement in technology, to the clear competitive detriment of CLECs. Covad strongly recommends that the phrase "and Qwest is obligated by law to provide access to such technology" be deleted. *Id.* at page 4.

321. Second, Covad objects to the requirement that the "rates, terms and conditions for line sharing" be amended before access will be provided to any future line sharing and transport technologies deployed by Qwest. As with the competitive disadvantage to CLECs inherent in the delay relating to the crystallization of Qwest's legal obligations, the delay sustained during the time the parties negotiate and reach agreement on new rates, terms, and conditions creates a sustainable competitive advantage for Qwest. This phrase should be deleted. *Id.*

322. Covad has some general concerns about Qwest's line sharing provision in the SGAT and its implementation practices. Covad has raised (both in Colorado and elsewhere) the issue of collocating at a remote terminal on a line-card-by-line-card basis in order to access the fiber fed portion of the loop. Although Qwest has stated that it does not believe it is obligated to provide that type of access, Qwest should clarify whether this is a policy position or a technical position. Specifically, Qwest should clarify its position as to the technical feasibility of (a) line sharing over a fiber fed loop, generally, and (b) line sharing over a fiber fed loop via a “plug and play” card, specifically. *Id.* at pages 4 and 5.
323. In SGAT § 9.4.2.1.4, Qwest states that the HUNE service may be transferred from one CLEC to another only if the end user first disconnects the original telecommunications carrier’s HUNE service and then transfers that service to another CLEC. Qwest should clarify both (1) whether it believes there is any technical impediment to a “live” migration of the service and (2) the basis for its requirement that the original telecommunications carrier’s HUNE service must be disconnected. *Id.* at page 5.
324. The Joint Commentors (Rhythms, New Edge, XO, and Pac-West) filed Initial Comments on Emerging Services on October 12, 2000. *Exhibit 3-JOINT-1*. In these comments, the Joint Commentors assert their concerns about Qwest's line sharing and line splitting obligations as set out in the SGAT.
325. Qwest may maintain control over the loop and splitter functions and equipment. If Qwest maintains control of the splitter, it must promptly accommodate, in response to CLEC request, any line sharing technology that meets the deployment criteria established in the *Line Sharing Order*. Qwest should not delay the deployment of necessary equipment or

notification to the CLEC of provisioning information. It should take no longer to obtain and install such equipment than it would take Qwest to procure and install the same equipment for itself. *Exhibit 3-JOINT-1* at pages 13 and 14.

326. The Joint Commentors also express some concern about Qwest's line conditioning policies and practices. Joint Commentors proffer these as requirements: Qwest must condition loops to enable CLECs to provide xDSL-based services on the same loops Qwest is providing analog voice service, regardless of loop length. Qwest must condition loops of any length upon request for line sharing, unless conditioning of the loop will significantly degrade voice service. Qwest must make an affirmative showing that conditioning a specific loop will degrade voiceband services significantly. Qwest must show that there is not an adjacent or alternative loop available that can be conditioned or to which the customer's service can be moved to enable line sharing. This should be rare, if ever, for loops under 18,000 feet. *Id.* at page 14.
327. If Qwest claims that the loop cannot be conditioned without degrading voice service, it cannot then, or later, condition the loop and provide its own retail xDSL service without first making available the high frequency portion of that loop to any requesting carrier. Charges for loop conditioning should not exceed the charges Qwest is permitted to recover for similar conditioning on stand-alone loops for xDSL services. *Id.* at pages 14 and 15.
328. CLECs cannot deploy xDSL services where Qwest has deployed DLC systems unless the CLEC can otherwise obtain access to the customer's copper loop before the traffic is multiplexed at the Qwest remote terminal. Qwest must provide access to the high

frequency portion of the loop at the remote terminal as well as the central office. If parties cannot agree to facilitate line sharing where the customer is serviced by a loop passing through a DLC, Qwest bears the burden of demonstrating to the Commission that it is not technically feasible to unbundle the sub-loop. *Id.* at page 15.

329. Qwest must provide CLECs with the ability to obtain access to line sharing in the same ordering and provisioning time intervals that Qwest provides for its own xDSL-based services. Qwest must provide requesting CLECs with access to the loop facility for testing, maintenance, and repair activities either through a cross-connect at the competitor's collocation space or through a standardized interface designed to provide physical access for testing purposes. Access must be provided in a reasonable and nondiscriminatory manner. For customer service, trouble shooting, and repair, Qwest has primary responsibility over the loop facility for voice trouble tickets and testing. For trouble with xDSL service, CLECs bear the responsibility. *Id.* at pages 15 and 16
330. Qwest's witness Karen Stewart states in her Affidavit (*Exhibit 3-Qwest-1*) that either the CLEC may purchase the splitter or Qwest will purchase the splitter subject to reimbursement by the CLEC. SGAT § 9.4.2.1.3, however, provides that the CLEC must provide the splitter. The *Line Sharing Order* does not require CLECs to purchase the splitter. *Exhibit 3-JOINT-1* at page 17.
331. Section 9.4.2.1.5 of the SGAT limits the technology that CLECs can use two types of xDSL service: Asymmetric Digital Subscriber Line and Rate Adaptive Digital Subscriber Line. This SGAT section states that, in the future, additional technologies may be used by CLECs provided they meet Qwest's PSD parameters or other industry

standards. In contrast, the *Line Sharing Order* states that a CLEC can use any technology that is presumed acceptable for deployment under the following circumstances: the technology complies with industry standards and (1) is approved by an industry standards body, the FCC, or any state commission or (2) has been successfully deployed by any carrier without "significantly degrading" the performance of other services. *Id.* at page 18.

332. Ms. Stewart's affidavit provides that CLECs can get direct connections from the COSMIC to the POTS splitter whether the splitter is located in the common area of the central office or in the CLEC's collocation area. SGAT § 9.4.2.2.3.2, however, only provides for direct connections if the splitter is located in the CLEC's collocation area. *Id.*

333. Other than § 9.4.3.2.2 (which states that conditioning charges apply as specified in Exhibit A to the SGAT), there is no discussion of Qwest's obligation to condition loops of any length upon request for line sharing, unless Qwest proves that conditioning of the loop significantly will degrade voice service. *Id.*

334. Section 9.4.5.2 describes the steps that Qwest will take if it receives a trouble report from an end user on its voice grade POTS service and determines that the end user's voice service is being degraded by the CLEC's data service. These steps do not comply with the interference dispute resolution procedures set forth in the *Line Sharing Order*. Specifically, Qwest states that it can disable the CLEC's service if the CLEC does not immediately clear the trouble. The *Line Sharing Order* provides that Qwest must give the CLEC a "reasonable opportunity" to correct the problem. If the problem is not

resolved, Qwest must establish before the Commission that a particular technology is causing the significant degradation. (This requirement is codified at 47 C.F.R. § 51.233(b).) Qwest cannot take unilateral action temporarily to disable the CLEC's data service. *Id.* at page 19.

335. The Joint Commentors also assert that Qwest's line sharing provisioning interval is too long. Qwest maintains the same five-day interval for line shared loops as for regular unbundled loops despite the fact that there is clearly a shorter amount of time necessary to provision the line shared loop because it does not require an equivalent work effort. A five-day provisioning interval is clearly discriminatory. *Id.* at pages 19 and 20.
336. CLECs have experienced significant problems because of Qwest's inability properly to provision the loop at the central office. Qwest often has failed to provision the loop even within the five-day interval. CLECs have experienced completion intervals of up to 20 days. In addition, the loop has often been tied to the wrong termination or labeled incorrectly at the MDF. As a result, customers have been unable to obtain data service, and their voice service was disconnected as well. Qwest technicians have been unable to locate the cross-connects to hook the loop into the central office. In order to solve the problem, CLECs have had to escalate the issue to the Qwest's Product Manager. Given all this commercial experience, the Joint Commentors assert it becomes even more imperative for Qwest to commit to a shorter interval for line shared loops. *Id.* at page 20.
337. The Joint Commentors propose that, for line conditioning, any conditioning requirement be waived for removal of load coils on loops of a length below 18 kilofeet. Industry standards for network design state that load coils should be used on loops greater than 18

kilofeet in length in order to preserve the quality of voice service. Concomitantly, Qwest should not charge a conditioning fee for removal of load coils on loops below 18 kilofeet.

*Id.* at page 21.

338. Qwest does not allow line sharing over loops fed by DLC facilities. Because of this limitation, a large percentage of the addressable market of homes and businesses cannot be served by line sharing. This significantly impairs the ability of CLECs from providing xDSL services to customers and is discriminatory. The problem is exacerbated as Qwest continues to deploy more DLC in its network and replaces copper feeder facilities. This "fiber to the neighborhood" design means that fiber optics will be deployed by Qwest to remote terminals. Qwest's RTs are located in CEVs, huts, and cabinets that are deployed closer to the customer. At the RT, Qwest has installed DLCs or in some instances DSLAM equipment that allow Qwest to provide service. *Id.*

339. With a fiber to the neighborhood deployment, CLECs that have placed their DSLAMs in the central office will be unable to obtain unbundled loops to provide service to end users. As the FCC observed in the *UNE Remand Order* at ¶ 313:

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.

*Exhibit 3-JOINT-1* at page 22.

340. Therefore, CLECs should be allowed to access, and place line cards in, the equipment Qwest deploys at the remote terminal. Such a "plug and play" option is clearly required



because CLECs would be impaired in providing line sharing to end users in Colorado. Allowing CLECs to place their line-card-based DSLAMs at the remote terminals permits them to access unbundled loops and line share on the same terms and conditions as Qwest. *Id.* at page 22.

341. For the path between the remote terminal and the serving central office, Qwest should be required to offer multiple options for the transport of the requesting carrier's data signals over Qwest's fiber feeder facilities: (1) permanent virtual circuits (2) permanent virtual paths; and (3) time-division-multiplexed circuits. Requesting carriers should have the option of obtaining PVCs and PVPs in any of the possible formats, including ITU-T Quality of Service Classes A, B, C, and D; ATM Forum Quality of Service Classes 1, 2, 3, and 4; Service Class 1, 2, 3, and 4; and Service Class Categories Available in Bit Rate, Variable Bit Rate--Real Time, Variable Bit Rate--Not Real Time, and Unspecified Bit Rate. The above options are all technically feasible and facilitate the offering of innovative, advanced services over the unbundled loop. *Id.* at page 23.
342. In regard to the splitter location, the Joint Commentors assert that Qwest should be required efficiently to provision line sharing by locating the splitter on an MDF where the local loop enters the central office. In the case of COSMIC frames, the splitter should be placed as close as possible to the frame on the IDF. Placing the splitter away from the MDF will require more and longer tie cables to be placed. *Id.* at pages 23 and 24.
343. The splitter capacity should be made available on both port-by-port and bulk (shelf at a time) bases. Limiting CLECs to purchasing splitter capacity on a port-by-port basis forces CLECs to rely on Qwest for capacity management of the splitter. If CLECs are

allowed access to splitter capacity a shelf at a time, CLECs can handle their own capacity management and let Qwest know when and if a new splitter needs to be installed. *Id.* at page 24.

344. For two reasons, at least, Qwest should give CLECs the option of having Qwest purchase (subject to reimbursement by CLEC) and maintain the splitter. First, the network configuration and practices that underlie this option should place the splitter in proximity of the MDF where the tie cables appear. Second, this allows Qwest to determine the splitter model and manufacturer and to make bulk purchases that should result in better pricing and simpler maintenance. This configuration also allows Qwest to maintain control of the voice portion of the shared line and to avoid the needless transporting of the voice service to and from the CLEC collocation arrangement. *Id.* at pages 24 and 25.

#### 4. Qwest's Response

345. On October 25, 2000, Qwest witness Karen A. Stewart filed a rebuttal affidavit to reply to the testimony of numerous parties concerning emerging services now available to CLECs in Colorado. *Exhibit 3-Qwest-2*.
346. In its reply comments, AT&T draws a distinction between “line sharing” and “line splitting.” As identified by AT&T, in the *SBC Texas Order*, the FCC defined “line splitting” as the situation when both the voice and data service will be provided by different competitive carriers over a single loop with the voice being provided through a UNE-combination, while “line sharing” occurs when the ILEC provides the voice service to the end user customer and a CLEC provides the data service. Qwest will allow line splitting, *i.e.*, two different CLECs can provide voice and data over a single loop, and

combine that loop with Qwest provided unbundled local switching and shared transport. However, as correctly identified by AT&T, this is not line sharing. Qwest proposes that line splitting and its related combination issues be addressed in the Unbundled Loop workshop. *Exhibit 3-Qwest-2* at page 3.

347. Qwest strongly disagrees with the AT&T request that Qwest be required to purchase, own, and deploy line splitters to support line splitting arrangements. This issue was resolved against AT&T's position in the *SBC Texas Order*. Qwest's position is further supported by the *Line Sharing Order*, which spawned the line-splitting requirement. This order specifically stated that the ILEC has the option of providing line splitters itself or of allowing CLECs to place their splitters in the ILEC's central offices. The FCC believes that providing the CLEC the option to own line splitters is to the CLEC's advantage since it ensures that the ILEC cannot limit the CLEC's ability to deploy competitive services. Thus, the FCC has specifically stated, not once but twice, that ILECs are not required to own and to install splitters for CLECs that can be obtained on a line-at-a-time basis. AT&T's argument should be rejected. *Id.* at pages 3-6.
348. Qwest responds to several issues concerning its technical publications. Although not necessarily restricted to line sharing issues, those responses are included here.
349. WorldCom requested that Qwest's technical publications be consistent with or incorporate recognized industry standards. Qwest asserts that WorldCom did not provide any specific examples but, rather, made broad-brush allegations. Qwest bases its technical publications on industry standards. Qwest also commits in its SGAT to cooperate in the development of national standards "for Interconnection elements as the

competitive environment evolves.” That does not mean, however, that Qwest adopts every telecommunications industry “standard.” For example, Qwest’s DS1 products are based on a 1.544 Mbps digital signal over T-1 transmission facilities standard. In European countries, companies frequently use the industry “standard” for E1 to deliver a similar service, *i.e.*, 2.048 Mbps over a T-1 digital carrier system. The fact that Qwest does not incorporate the E1 standard into its technical publications does not make it any less “standards based.” Thus, Qwest cannot agree to an overly broad statement that its technical publications will be based on all industry standards. However, as parties have done throughout the workshop process, if there is a specific technical publication that a CLEC wants referenced in SGAT § 21 or specific language from a technical publication that a CLEC wants incorporated into the SGAT, the CLEC should identify the language; and Qwest will consider the request. *Id.* at pages 6-7.

350. WorldCom requested that CLECs be allowed to order new services based on their introduction in technical publications, without having to amend their interconnection agreement. Qwest cannot accept this recommendation. Qwest does not introduce or offer new retail or wholesale products and services solely based on their inclusion in technical publications. For example, technical publications typically do not include rates and charges. Qwest introduces new products in a variety of ways, depending on the service and its regulatory status. Standard methods of introduction include: tariffs, price lists, and individual case based contracts. Moreover, if a CLEC’s interconnection agreement does not contain a UNE or Emerging Service offered by Qwest, Qwest will amend its agreement, on an expedited basis, to include the UNE without the need for the BFR process or lengthy negotiations. The purpose of the SGAT is to provide CLECs

with an easy vehicle for such opt-in capability. As identified in § 1.8, the SGAT can be used as the basis for negotiating an interconnection agreement. Qwest also provides CLECs with the ability to begin the service order process for new UNEs before such an amendment to interconnection agreement has been approved by the Commission. This assumes that such an action on the part of Qwest is not prohibited by the Commission, and that a Letter of Agreement has been executed by the parties to cover the period of time the interconnection agreement approval is pending before the Commission. The Line Sharing Agreement Qwest entered into with many CLECs and DLECs is a prime example of this. *Id.* at pages 7-8.

351. AT&T requested access to Qwest's technical publications in order to evaluate its compliance with the SGAT. Qwest's technical publications have recently been made available to CLECs on the following URL: <http://www.uswest.com/techpub/>. (Copyright © 1998 Qwest Communications International, Inc. All rights reserved.) Permission is given to view, copy, print, and distribute material on this Web site subject to certain conditions. *Id.* at pages 8-9.

352. WorldCom and Covad expressed concern that Qwest can unilaterally change technical publications and that these changes could have an effect on products and processes currently used by CLECs. Qwest believes that the publication and use of technical publications is an invaluable tool to provide a level of product detail that is not feasible in tariff or contract language. In response to this specific concern of the CLEC community, Qwest announced on October 13, 2000, an augmentation to the existing Co-Provider Industry Change Management Process to include changes to products, business processes, and technical publications. Now CLECs will receive prior notice of planned

changes, as well as a forum for providing feedback on the planned changes. In addition, CLECs can use this process to request changes and to have their requested changes publicly tracked and reported. *Id.* at pages 9-10.

353. Qwest responds to specific line sharing issues, stating that it satisfies all of the requirements for § 271 of the Act and the FCC's requirements for line sharing as identified in the December 9, 1999, *Line Sharing Order*. The Qwest Shared Loop product had been developed in cooperation with all interested DLECs. Qwest notes that both AT&T and WorldCom were invited to participate in this process and declined to participate. Had AT&T and WorldCom participated in this industry forum, their line sharing issues could have been addressed in context with the issues and concerns raised by other interested DLECs. *Id.* at page 10.
354. In response to WorldCom's belief that the forecasting requirements of § 9.4.2.1.7 place an undue administrative burden upon the CLEC and may require the CLEC to disclose confidential information, Qwest states that the DLECs that opted into the Interim Line Sharing Agreement agreed to provide confidential forecasting information to Qwest. This confidential forecasting information allowed Qwest to prioritize and to install in record time the equipment necessary to support line sharing in 349 central offices in 13 states by July 31, 2000. Qwest recommends that § 9.4.2.1.7 retain the obligation of CLECs to provide periodic forecasts for line sharing. Any argument that the importance of forecasts has disappeared now that Qwest has equipped 349 Central Offices would be incorrect. The FCC requires ILECs to be prepared to manage "quantities that competitors may reasonably demand" "at an acceptable level of quality." To accommodate CLEC demand, Qwest may have to re-train technicians in a given central office or may have to

be prepared to supplement resources in a central office that may have had limited demand for line sharing in the past. The only way proactively to plan, to prepare, and to meet CLEC needs is to obtain such forecasts. Qwest is not aware of any complaints regarding Qwest's use of the confidential forecasting information required by the Interim Line Sharing Agreement. Nonetheless, Qwest agrees to add a statement into SGAT § 9.4.2.1.7 ensuring that forecasts are treated as confidential. *Id.* at pages 11-12.

355. WorldCom requested removal of the requirement in § 9.4.2.1.3 that CLEC-provided data service must be compatible with Qwest's POTS service and requested that Multiple Virtual Lines transmission systems be added to the presumed compatible list. The *Line Sharing Order* does not support the first half of WorldCom's request. Clearly, the FCC intended that any xDSL technology deployed by a CLEC in a line sharing arrangement not interfere with analog voice band transmissions, which is a basic requirement for the effective delivery of POTs service. Qwest accepts, however, the second half of WorldCom's request that MVL be added to the list of acceptable shared services. Qwest proposes modifications to § 9.4.2.1.3 to align that section more closely with the wording of the FCC on these two issues. *Id.* at pages 12-14.

356. AT&T requested that CLECs be permitted to collocate DSLAM equipment on Qwest premises. So long as space is available, Qwest will allow CLECs to collocate DSLAMs on Qwest's premises. This is true for both central office collocation space and remote field locations. This issue was resolved, in the collocation workshop when the parties agreed on language for SGAT § 8.1.2, which specifically allows collocation of DSLAMs. *Id.* at page 14.

357. AT&T requested a direct connection option, *i.e.*, the removal of the ICDF frame requirement, between the COSMIC/MDF and CLEC collocated POTS splitters that are placed in a common area of the central office. Qwest accepts this recommendation. Qwest clarifies that, in negotiations with interested DLECs for the Interim Line Sharing Agreement, no DLEC requested direct connections to the COSMIC/MDF. *Id.* at page 14.
358. AT&T requested that Qwest allow for a direct connection option that would allow CLECs to provision cables to every other or every third module on the COSMIC/MDF. This issue is currently an open issue in the Collocation Workshop. (See SGAT § 8.3.1.11.2.3.) In that workshop, Qwest agreed to allow CLECs to connect to every other line module of the COSMIC/MDF. The issue, however, remains open. Qwest recommends that this issue remain in the Collocation Workshop. *Id.* at page 15.
359. AT&T requested that Qwest input a CLEC's need for direct connections to the COSMIC into a planned MELD run and not require the CLECs to fund a separate MELD run. Again, this issue is an open issue in the Collocation Workshop and is contained in the same SGAT section. Qwest recommends that this issue remain in the Collocation Workshop. *Id.* at page 15.
360. AT&T requested a review of the rates and rate elements for line sharing in a permanent cost docket. Joint Commentors requested that Qwest not be allowed to recover the cost of loop conditioning on loops below 18 kilofeet. Qwest made a detailed cost filing in Docket No. 99A-577T. The Colorado SGAT Exhibit A will be amended to reflect any new rates that result from this cost proceeding. However, Qwest believes the interim rates established in the Colorado SGAT and the Interim Line Sharing Agreements are



sufficient to meet its requirement to have a legally binding obligation to provide line sharing. Qwest does not agree with Joint Commentors that it should be precluded from recovering its costs for loop conditioning for loops below 18 kilofeet. The United States Court of Appeals for the Eighth Circuit has already determined that ILECs have the right to recover the real cost of providing the specifically requested network element. The costs for interconnection and UNEs cannot be based on a hypothetical network; they must be based on the network that actually exists. Moreover, the FCC specifically held that ILECs can recover their costs for conditioning loops fewer than 18,000 feet. Finally, the United States District Court for the District of Colorado has ruled that Qwest may recover the cost of conditioning loops of fewer than 18,000 feet. *Id.* at pages 16-17.

361. AT&T requested that Qwest explain why TIE Cable Reclassification is necessary. AT&T asserted that it is inappropriate to charge CLECs for TIE cable redesignation. Line Sharing TIE Cable Reclassification is only relevant when a CLEC requests that existing TIE cables between its collocation and the IDF be designated for use with its commonly located line sharing splitter. The reclassification activity is necessary to allow proper voice and voice/data assignments during the shared loop provisioning process. Therefore, Qwest charges CLECs a nonrecurring charge for the physical work activity associated with TIE cable reclassification for the database work to change the naming of those TIE cables in the TIRKS and SWITCH databases and re-stenciling of the terminations on the IDF itself. Qwest is entitled to recover its costs for the work it actually performs. *Id.* at pages 17-18.

362. Joint Commentors requested a shorter standard interval for line sharing than the five business days identified in the SGAT. On this point, Qwest contends, Joint Commentors

stated inconsistent arguments. As an initial matter, Joint Commentors cited the *Line Sharing Order* for the proposition that Qwest must provide “access to line sharing in the same ordering and provisioning time intervals that Qwest provides for its own xDSL based services.” Indeed, the entire premise of the *Line Sharing Order* and the entire premise of the DLECs as to why they are entitled to line sharing is: Incumbent LECs are offering xDSL on the same line as their voice service, and competitive LECs are disadvantaged in offering xDSL-based service over the same line that is used to provide voice service. CLECs successfully convinced the FCC that it should order line sharing because ILECs such as Qwest were already doing the exact same thing for its retail customers. Thus, Joint Commentors agree that they are entitled to retail parity, nothing more. The five-business-day installation interval for line sharing is nondiscriminatory and compares favorably with the 10-business-day installation time frame Qwest uses for provision of its retail DSL service. Contrary to the statements of the Joint Commentors, CLECs’ installation interval can rival those of Qwest retail DSL service. The Joint Commentors’ arguments of what is necessary to provision line sharing become irrelevant when all they are entitled to, by their own admission, is retail parity. The Joint Commentors’ view of what it takes to provision line sharing, however, is inaccurate. Qwest must perform numerous other order entry, assignment, and provisioning functions to support line sharing. There is simply no reasonable justification either under the law or the facts for shortened intervals. *Id.* at pages 18-19.

363. Joint Commentors requested that Qwest provide loop conditioning for shared loops. Qwest now offers conditioning on shared loops. The Interim Line Sharing Agreement made loop conditioning on shared loops available as of July 31, 2000, under the same

guidelines as conditioning for all other unbundled loops. The SGAT at § 9.4.2.1.5 provides for loop condition on shared loops. *Id.* at pages 19-20.

364. Joint Commentors requested line sharing over fiber-fed loops. Qwest notes that “line sharing” over fiber-fed DLC systems does not meet the FCC definition of line sharing. Line sharing, as defined by the FCC, is the simultaneous use of a copper loop for voice and a high frequency spectrum network element for voice compatible data transmission. Therefore, if any portion of the loop is served via a transmission medium other than copper (*i.e.*, fiber, coax), then technically “line sharing” cannot exist. Loop arrangements using a mixture of copper and fiber require electronics and transport above and beyond what is necessary to provision “line sharing” over a POTS line served over copper facilitates. Qwest does not currently deploy electronics (*i.e.*, an ADSL combination card) in its DLC systems that can provide ADSL capability. In addition, fiber transport separate from that used for POTS is required between the central office and the DLC services. This does not mean that Qwest will not work with CLECs to seek a way to support this type of modified “line sharing” arrangement. Rather, it illustrates why the Qwest current methods and procedures, developed to support true copper loop line sharing, do not include the type of “enhancements” now desired by the CLECs. Qwest will work with the CLECs to continue research on this request. However, the current line sharing processes and rate structure do not anticipate “sharing” fiber fed POTS. *Id.* at pages 21-23.

365. Joint Commentors requested that the splitter be located on the MDF. In certain circumstances, Qwest agrees to locate splitters on the MDF. Qwest believes it is best to locate the splitters close to where the CLEC DSO terminations are located. In a large

central office this frequently can be some distance from the MDF. Splitter location language was jointly agreed to by the participants of the Qwest/CLEC forum on line sharing. Qwest already has equipped 349 central offices with splitters; in none of these central offices did it make sense to locate on the MDF. All of these splitters are located in a common area in close proximity to an intermediate frame for ease of provisioning. *Id.* at pages 23-24.

366. Placement of the POTS splitter has an engineering economy basis. Location of existing splitter shelves in a bay, location of collocation, available space, and size of the central office (to name a few) are considered. Larger central offices tend to aggregate like types of equipment into common areas within the central office to take advantage of common power and cable rack, as an example. Smaller central offices tend to have less space as well as less demand for line sharing overall. Thus, placement of POTS splitters on MDFs should be limited to smaller central offices (those of 10,000 access lines or fewer). Qwest agrees to allow placement of POTS splitters under the conditions set out in § 9.4.2.3.1 of the SGAT. *Id.* at page 24.

367. The Joint Commentors requested that the SGAT be modified so that, when a repair problem occurs with a shared loop, Qwest cannot unilaterally disconnect the data service.

368. Qwest agrees and proposes revisions to SGAT § 9.4.5.3.1.

## **5. Principal Workshop Discussions and Resolution**

369. Workshop 3 technical discussions on Emerging Services (access to dark fiber, sub-loops, line sharing, and packet switching) occurred during 10 separate sessions held on October

31, 2000; November 1, 2, and 3, 2000; December 12, 13, 14, and 15, 2000; and April 19 and 20, 2001.

370. A detailed summary of the discussions related to access to line sharing can be found in the Colorado Issues Log included at Appendix A of this report and will not be repeated here for the sake of brevity. The discussions were protracted and exhaustive, and participants were given ample opportunity to flesh out their respective issues and have them fully discussed.
371. During Workshop 3, the issues raised by participants in testimony or comments regarding the provisions of Qwest's SGAT were discussed and fully addressed. Except for the disputed issues that reached impasse, the issues were resolved by consensus among the participants. This consensus was reached by Qwest's agreement to alter the SGAT provisions in accordance with the comments of the participants, based upon the merits of the issues raised. In other cases, the participants accepted Qwest's rationale and justification for not agreeing to proposed changes.
372. With the exception of the impasse issues that are identified in succeeding paragraphs, there are no remaining disputes among participants regarding the line sharing provisions of Qwest's SGAT.
373. The remaining portion of this section of the report describes the disputed issues concerning line sharing that could not be resolved by consensus of the participants during Workshop 3 and which reached impasse. The Commission will consider these issues in accordance with the dispute resolution process agreed to by the participants and ordered by the Commission for this proceeding. The results of the resolution of the impasse

issues by the Commission will be presented in Volume III A in this series of Staff reports. The Commission's decisions in resolving the impasse issues will specify what the Commission believes is required of Qwest to achieve compliance with the requirements of the Act and the FCC with regard to the impasse issues.

374. The following is a brief description of the impasse issues related to line sharing and is not intended to reiterate fully the positions of the parties with respect to these issues. The parties' complete briefs are available to the Commission for its consideration in resolving the impasse issues.

#### **6. Line Sharing Impasse Issues:**

375. **Issue LS-7. Whether Qwest's five-day provisioning interval for line sharing is appropriate.** Covad asserts that the work necessary to provision a line shared loop is minimal and only requires a simple "lift and lay" procedure. Covad proposes an interval starting at three days and decreasing to a one-day interval after six months. Qwest argues that the FCC has ordered retail parity for line sharing provisioning. Qwest's five-day interval is significantly less than the 10-day interval it offers its retail DSL customers.
376. **Issue LS-10A. Whether the 10,000 access line limitation in SGAT § 9.4.2.3.1 regarding installation of splitters on an MDF is appropriate.** Covad asserts that the limitation is inappropriate, is anti-competitive, and should be removed. Qwest argues that it has no obligation to allow splitter/MDF collocation in all circumstances. Such a requirement would preclude Qwest from recovering its legitimate costs incurred to install the necessary equipment in common areas to facilitate CLEC line sharing.

377. **Issue LS-15. Whether Qwest should be required to conduct a data continuity test as part of the line sharing provisioning process.** Covad asserts that Qwest should be required to conduct such a test, a test it performs for its own retail DSL customers. Qwest argues that the FCC clearly has delimited Qwest's obligation to providing CLECs with access to the loop facility so that they can test for themselves.
378. **Issue LS-18. Whether Qwest is obligated to provide line sharing over fiber fed loops.** AT&T, Rhythms, Covad, and WorldCom assert that, pursuant to the *Line Sharing Reconsideration Order*, Qwest is required to provide line sharing even when there is fiber in the loop. Qwest may not limit line sharing to the copper portion of the loop. Qwest has provided no evidence that line sharing over a fiber fed loop is not technically feasible. Qwest argues that the FCC requires ILECs to allow CLECs to line share the distribution portion of the loop where the signal is split and to allow the CLECs' data to be carried over fiber to some different location, which Qwest now allows. Further, the FCC has initiated two proceedings seeking comments on the technical feasibility of line sharing over fiber fed loops. The Commission should await the outcome of those proceedings.

## **7. Staff Compliance Assessment**

379. The technical discussions held during Workshop 3 concerning nondiscriminatory access to line sharing were exhaustive and thorough, with each participant having ample opportunity to raise its issues and to have them thoroughly discussed. Additionally, extensive testimony, comments, and exhibits were filed in the record of this investigatory proceeding.

380. The primary focus of the workshop was to address the terms and conditions of Qwest's SGAT to assess the adequacy of Qwest's concrete and specific legal obligation to provide nondiscriminatory access to line sharing in accordance with the requirements of the Act and the FCC. The workshop discussions provided Staff the opportunity to hear in detail the positions of the participants regarding the multitude of issues that arose and to evaluate the appropriateness of compromises that were crafted to resolve disagreements by consensus of the participants. The terms and conditions of Qwest SGAT were thoroughly and rigorously reviewed.
381. For the previously described issues in dispute that reached impasse, briefs were filed by participants. The Commission will consider these briefs and other information, as may be requested by the Commission, and will resolve the impasse issues through the dispute resolution process ordered by the Commission in this docket. The Commission's decisions to resolve the issues in dispute will be incorporated into Volume IIIA in this series of Staff reports.
382. Subject to the Commission's resolution of the issues in dispute (which will reveal the Commission's decision regarding what is required for compliance regarding these issues), a demonstration that those decisions have been implemented, and a demonstration that Qwest has incorporated into the SGAT the language agreed to during the workshop, Staff's assessment is that the terms and conditions of Qwest's SGAT otherwise meet the requirements of the Act and the FCC with regard to the provision of nondiscriminatory access to line sharing by competitors. This assessment is based upon the testimony, comments, exhibits, and workshop discussions.



383. Except for the impasse issues, the terms and conditions of Qwest's SGAT regarding access to line sharing are not otherwise disputed by participants.
384. The determination of whether the SGAT rates for unbundled line sharing are just and reasonable will be made by the Commission in the companion cost docket proceeding (Docket No. 99A-577T).
385. Qwest also must demonstrate that it currently furnishes, or is ready to furnish, access to line sharing in quantities that competitors may reasonably demand and at an acceptable level of quality. To assess Qwest's current performance, this Commission will rely on the results of the ROC OSS Test and other evidence, including Colorado-specific commercial usage experience of competitors, that may be brought to the Commission's attention.
386. Staff will provide its assessment of Qwest's actual performance with respect to unbundled network elements at such time as the ROC OSS Test results and any other evidence are incorporated into this proceeding.

## **D. PACKET SWITCHING**

### **1. FCC Requirements**

387. Under § 271(c)(2)(B)(ii) of the Act, ILECs must provide nondiscriminatory access to network elements in accordance with the requirements of §§ 251(c)(3) and 252(d)(1). Section 251(c)(3) requires, in turn, that access to UNEs be provided "on rates, terms and conditions that are just, reasonable and nondiscriminatory." In the *UNE Remand Order*, the FCC characterized the specific market-opening mechanisms, including the

unbundling requirements, as being "central to the new statutory scheme" (§ 251 of the Act) and as being designed "generally to reduce inherent economic and operational advantages possessed by incumbent local exchange carriers." *UNE Remand Order* ¶ 3. The FCC also recognized that, "[d]espite the development of competition in some markets, incumbents still control the vast majority of the facilities that comprise the local telecommunications network, giving them advantages of economies of scale and scope not enjoyed by competitive LECs." *Id.* at ¶ 13. Further, the FCC noted that its unbundling rules are "designed to facilitate the rapid and efficient deployment of all telecommunications services, including advanced services." *Id.* at ¶ 14.

388. The access to emerging service requirements was the result of the *UNE Remand Order* and the *Line Sharing Order*. The *Line Sharing Order* added the requirement that ILECs provide access to the high frequency portion of the loop, and the *UNE Remand Order* added the requirements for sub-loop unbundling, access to dark fiber, and limited access to unbundled packet switching.

389. The FCC requires ILECs to unbundle packet switching in limited circumstances. *UNE Remand Order* at ¶ 306. An ILEC's obligation to unbundle packet switching is directly related to whether the ILEC has placed DSLAMs in a remote terminal. Specifically, in the *UNE Remand Order* at ¶ 313, the FCC stated:

The 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. *UNE Remand Order* at ¶ 313.

390. Section 51.319 (c)(3) of the FCC's rules states:

(B) An incumbent LEC shall be required to provide nondiscriminatory access to unbundled packet switching capability only where each of the following conditions are satisfied:

(i) The incumbent LEC has deployed digital loop carrier systems, including but not limited to, integrated digital loop carrier or universal digital loop carrier systems; or has deployed any other system in which fiber optic facilities replace copper facilities in the distribution section (*e.g.*, end office to remote terminal, pedestal or environmentally controlled vault);

(ii) There are no spare copper loops capable of supporting the xDSL services the requesting carrier seeks to offer;

(iii) The incumbent LEC has not permitted a requesting carrier to deploy a Digital Subscriber Line Access Multiplexer at the remote terminal, pedestal or environmentally controlled vault or other interconnection point, nor has the requesting carrier obtained a virtual collocation arrangement at these sub-loop interconnection points as defined by Section 51.319(b); and

(iv) The incumbent LEC has deployed packet switching capability for its own use.

## 2. Qwest's Position

391. On September 1, 2000, Qwest witness Karen A. Stewart filed an affidavit concerning emerging services now available to CLECs in Colorado, including unbundled packet switching. *Exhibit 3-Qwest-1*.

392. The FCC does not require ILECs to unbundle packet switching except in extremely limited circumstances. Qwest's obligation to unbundle packet switching is directly related to whether Qwest has placed DSLAMs in a remote terminal. *Id.* at page 38.

393. The FCC rules for packet switching must be read in the context of the FCC's discussion in ¶ 313 of the *UNE Remand Order*.

Clearly, Rule 51.319 (B)(iv) is related to the situation (identified in ¶ 313) in which an ILEC has placed DSLAMs in its remote terminals. On a practical basis, if the first three conditions are indeed met, and Qwest did not have a DSLAM located in a remote terminal, unbundled packet switching located in the central office would be of little value. The CLEC (or Qwest for that matter) would not be able to connect the end user to that central office placed (or even central office accessed) DSLAM on a clean copper pair. *Id.* at pages 38-39.

394. Qwest currently has such a limited number of remotely deployed DSLAMs, serving such a limited number of customers, that it believes the four conditions identified by the FCC would rarely exist in Qwest's current network configuration. However, Qwest will contractually commit to unbundling packet switching should a CLEC be unable to obtain clean copper loops or to collocate remotely its DSLAM in a remote terminal where Qwest has an existing DSLAM. *Id.* at page 39.

395. In the interest of full disclosure, Qwest currently is studying the feasibility of placing remotely deployed DSLAMs on a broader scale. Should Qwest elect to deploy remotely located DSLAMs in its network for use by retail customers, Qwest will concurrently develop and deploy a network architecture that will provide space for CLECs to locate remotely their DSLAMs in remote field locations such as at FDIs. In this circumstance, Qwest believes the CLECs should be required to work with Qwest proactively to provide their deployment plans to Qwest, on a confidential basis, so Qwest appropriately can size the cabinets. *Id.* at pages 39-40.

396. Given the current status of packet switching, Qwest stands ready to provide unbundled packet switching on an ICB in Colorado in the unlikely situation that the four conditions outlined by the FCC were to exist. *Id.* at page 40.

### 3. Competitors' Positions

397. AT&T filed its Errata Initial Comments on Packet Switching on October 11, 2000. *Exhibit 3-ATT-1*. In these comments, AT&T outlines Qwest's obligations for unbundling packet switching and identifies those areas in which AT&T thinks Qwest falls short of meeting its obligations.

398. Qwest must offer packet switching as a UNE under certain specific circumstances. The FCC has stated in the *UNE Remand Order* at ¶ 313 that packet switching must be offered as a UNE under the following circumstances:

1. Loops are provided via DLC or related technology,
2. CLECs are unable to obtain spare copper loops,
3. CLECs are unable to install DSLAM equipment at the remote terminal, and
4. The ILEC has deployed packet switching equipment for its own use.

399. Qwest has summarily concluded that these conditions will rarely, if ever, exist. Therefore, according to Qwest witness Karen Stewart, Qwest will apparently commit to unbundling packet switching on a "contractual" basis "should a CLEC be unable to obtain clean copper loops or remotely collocate its DSLAM in a remote terminal were [sic] Qwest has an existing DSLAM." This position plainly violates the FCC's directives

on packet switching. The circumstances under which the FCC mandates that ILECs make packet switching available exist in Qwest's network. First, Qwest provides a growing percentage of its loops via DLC for purposes of pair gain, extension of loops to remote areas, and the provisioning of advanced services. The DLC is provided over both fiber and copper facilities. Second, in many areas, Qwest has exhausted its copper loop facilities. Qwest is using DLC technology for pair gain in many areas of Colorado. Pair gain is the use of DLC effectively to multiply the number of loops that embedded facilities can serve. This technology typically utilizes existing loops for DS1 facilities to the pair gain device. Thus, copper loops for use by the CLEC are not available. Third, Qwest has not offered any realistic opportunity for CLECs to install DSL equipment at remote terminals. Fourth, Qwest is the most active of all ILECs in the deployment of its own DSL technology. *Exhibit 3-ATT-1* at page 34.

400. In those instances in which an ILEC has deployed DLC systems, a continuous copper facility dedicated to one retail customer no longer connects the customer's premises to the serving central office. DLC can thus create significant impairments in a data CLEC's ability to provide DSL services competitive with those of Qwest. *Id.* at page 35.
401. To provide DSL services when a customer is served by a DLC system: (i) the DLC system itself must be equipped with appropriate electronics and connected to appropriate feeder facilities; (ii) a DSLAM must be deployed remotely from the central office and be connected both to the customer's copper sub-loop and to outside plant facilities of appropriate bandwidth; or (iii) a continuous copper loop facility having suitable electrical characteristics must be available between the customer's premises and the serving central office. *Id.*

402. The FCC recognized that sufficient remote terminal collocation (option (ii)) was an unlikely prospect. *UNE Remand Order* at ¶ 313. Likewise, the FCC recognized that “home run” copper loops short enough to support competitive quality service (option (iii)) would generally not be available where the ILEC is providing (or enabling) DSL service through electronics that are deployed remotely from the central office. *Id.* Therefore, the FCC concluded that CLECs would be impaired in their ability to compete in the provision of advanced services if the ILEC failed to provide nondiscriminatory access to alternate means for serving such customers. *Exhibit 3-ATT-1* at page 36.
403. Accordingly, FCC Rule 51.319(c)(3)(B) requires ILECs to provide unbundled packet switching when four conditions are satisfied:
- (i) the ILEC has deployed digital loop carrier systems, or has deployed any other system in which fiber optic facilities replace copper facilities in the distribution section (*e.g.*, between the end office and a remote terminal, pedestal or environmentally controlled vault);
  - (ii) there are no spare copper loops capable of supporting the xDSL services the requesting carrier seeks to offer;
  - (iii) the ILEC has not permitted a requesting carrier to deploy DSLAMs at the remote terminal, pedestal or environmentally controlled vault or other interconnection point, nor has the requesting carrier obtained a virtual collocation arrangement at these sub-loop interconnection points; and
  - (iv) the ILEC has deployed packet switching capability for its own use.
404. In these circumstances, the ILEC must provide CLECs with a packet switching capability that permits a requesting carrier to obtain an “equipped loop.” As stated earlier, an equipped loop provides the connectivity between the retail customer’s premises and the central office that supports the sending and receiving of both voice communication and data communication services over a single facility terminating at the retail customer’s

premises at a quality no less than that which the ILEC provides directly to its retail customers or indirectly through its data affiliate. *Exhibit 3-ATT-1* at page 36.

405. Although CLECs are clearly entitled to unbundled packet switching capabilities when the four above-mentioned conditions are met, Qwest's SGAT, which is supposedly designed to bring Qwest into compliance with the *UNE Remand Order*, fails to contain any provisions regarding the unbundled packet switching capability UNE as defined in FCC Rule 51.319(3)(c). Moreover, Qwest has stated in the affidavit of Ms. Stewart (*3-Qwest-1*) that the four conditions required for it to make unbundled packet switching capability available will not occur. There is no basis in fact for this biased, unilateral prediction. *Id.* at page 37.
406. AT&T explains why, as a factual matter, Qwest cannot justify denying the provision of unbundled packet switching capability on the grounds that: (1) spare copper facilities will be available and (2) it will be able to accommodate adequately all requests for collocation. *Id.*
407. In the *UNE Remand Order*, the FCC concluded that one of the four prerequisites to the unbundling of packet switching capability is the lack of spare copper facilities that are "capable of supporting the xDSL services the requesting carrier seeks to offer" and that permit the CLEC to offer "the same level of quality of advanced services" as that offered by the ILEC (or its data affiliate). *Id.*



408. When a CLEC seeks to offer DSL service in competition with an ILEC (or its data affiliate) that has deployed its DSLAM functionality at the remote terminal,<sup>5</sup> the CLEC will invariably be unable to provide a DSL service that operates with “the same level of quality” (e.g., data rates) as that provided by the ILEC or its data affiliate if the data CLEC must rely on “home run” copper. In such cases, the CLEC’s copper loop will extend all the way from the serving office to the customer’s premises while the ILEC or its data affiliate can provide service using remotely deployed electronics and shorter copper sub-loop that reach only from the customer’s premises to the remote terminal. The laws of physics dictate that maximum attainable data rates decrease as the length of the copper facility that is used increases. For example, ADSL can reasonably provide network-to-subscriber data transfer rates as a function of the length of the copper facility employed (assuming 24 AWG, no load coils and without bridge taps) as follows:

| Data Rate  | Distance   |
|------------|------------|
| 1.544 Mbps | 18,000 ft. |
| 2.048 Mbps | 16,000 ft. |
| 6.312 Mbps | 12,000 ft. |
| 8.448 Mbps | 9,000 ft.  |

Source: [www.adsl.com](http://www.adsl.com) (General Tutorial: General Introduction to Copper Access Technologies).

*Id.* at page 38.

409. As the above chart shows, a 9,000 ft. copper loop allows for the transmission of data at a rate more than five times faster than an 18,000 ft. copper loop. Indeed, Very High Data Rate (VDSL) technology has the potential to offer upstream data rates in excess of 1.5

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<sup>5</sup> Such deployment could either be a standalone DSLAM or the deployment of Next Generation DLC (NGDLC) that accept plug-in electronics capable of delivering equivalent functionality.

Mbps and downstream data rates of 12.96 Mbps when the copper segment is shorter than 4,500 feet. Accordingly, a shorter copper loop will allow the incumbent (or its affiliate) to offer its DSL customers not only a significantly faster data rate, but also emerging services that require very high transmission rates, such as video. *Id.* at pages 38 and 39.

410. Needless to say, any CLEC that must use home run copper to compete with an ILEC or ILEC data affiliate that has access to shorter copper sub-loops at a remote terminal will be at a significant competitive disadvantage. Thus, absent the ability either to collocate DSLAM functionality at the remote terminal or to access the ILEC's unbundled packet switching capability in the form of an equipped loop, the CLEC cannot offer a service of the same level of quality as the ILEC's. Accordingly, condition (ii) of the FCC Rule 51.319(c)(3)(B) will almost always be met. *Id.* at page 39.
411. The FCC's third condition addresses the situation in which the CLEC cannot practically deploy DSLAM functionality in the ILEC's remote terminal or other interconnection point. Qwest has taken the position that this condition will not arise. While remote terminal collocation or other forms of sub-loop interconnection may be theoretically possible, there is little prospect that remote collocation could provide a practical competitive alternative for CLECs. *Id.*
412. In order for a CLEC to deploy remotely its own electronics, it must have access to the following: (i) a physical location in which to deploy its equipment (either through physical or virtual collocation); (ii) power to run the equipment; (iii) heat, ventilation, and air-conditioning to control the equipment environment as appropriate; (iv) sufficient copper pairs to reach customers to utilize sufficiently the equipment it is deploying; and

(v) facilities of sufficient bandwidth that connect the remotely deployed electronics to its data network. It is highly unlikely that all of these conditions can be met and, if met, can be done so in a manner that is economically viable. *Id.* at pages 39 and 40.

413. With respect to a location for the data provider's equipment, most remote terminals (and the less common CEVs) generally lack sufficient space for physical and virtual collocation of much, if any, equipment for a single CLEC, let alone multiple competitors. Qwest has resisted including CEVs in the definition of "premises" for the past four years, stating that CEVs do not have sufficient space for CLEC collocation. Remote terminals are generally smaller and more densely packed than CEVs. *Id.* at page 40.
414. In the unlikely event there is sufficient space for the CLEC to collocate at the ILEC remote terminal, the CLEC might be able to gain access to power and HVAC; and it is true that both feeder facilities and facilities connecting to the customers of the ILEC terminate on ILEC equipment at this location. However, capabilities to cross-connect facilities efficiently are not generally present within the remote terminal. This is due to the fact that cross-connection of customer pairs is usually done at the FDI, not the remote terminal, and the feeder facilities to the central office are generally hardwired to the transmission equipment of the ILEC, such as DLC, rather than being wired to a frame-like device that permits flexible cross-connection to other service providers. Consequently, the availability of space at the remote terminal may provide the CLEC with a location in which to place its equipment, but will offer no apparent means of allowing the CLEC to connect its equipment to a customer's premises or to a facility that would connect to its own network. *Id.* at pages 40 and 41.

415. In fact, Qwest's SGAT indicates that, when cross-connections to the customer's facilities will need to occur at the FDI, the CLEC must provide its own cabinet or enclosure. Obtaining the rights-of-way and permits to construct a parallel cabinet, together with the costs of such construction, only further illustrates the high economic barriers associated with remote deployment of DSLAM functionality by CLECs. *Id.* at page 41.
416. Qwest's reliance on the BFR process to make "other arrangements" available to meet its remote terminal collocation requirement is also misplaced. In addition to remote terminals and vaults, the only "other interconnection points" to which Qwest could possibly be referring are the FDIs (sometimes referred to as Serving Area Interfaces). Collocation at alternate points such as the FDI do not hold out any better prospects than collocation at the remote terminal. In most instances, FDIs are too small to accommodate deployment of transmission equipment or DSLAM functionality. Moreover, FDIs generally lack the necessary power and HVAC for equipment deployment because they typically house only a set of cross-connection blocks. Thus, equipment deployment in FDIs would be impractical; and collocation would be limited to interconnecting CLEC-provided facilities to the ILEC distribution plant, assuming the CLEC could practically obtain the rights-of-way and the necessary capital to perform such self-provisioning of facilities. *Id.* at pages 41 and 42.
417. For collocation at the FDI to be even remotely practical from a technical perspective, one would need to be confident that: (i) the CLEC could obtain the necessary permissions to construct a parallel FDI within the ILEC's right-of-way (and even if one CLEC could gain such permission, subsequent CLECs would likely encounter significant resistance); (ii) the CLEC could obtain from the ILEC use of its rights-of-way (or obtain its own),

and economically deploy or obtain feeder plant to re-home a portion of the subscribers terminating on the ILEC's FDI's to the CLEC-deployed remote terminal; and (iii) the CLEC could obtain rights-of-way and economically deploy or obtain high bandwidth feeder plant to connect its remote terminal/DLC either to collocation within the ILEC's central office or to its own network. *Id.* at page 42.

418. All of the enumerated technical and logistical difficulties associated with remote deployment of DSLAM functionality at remote terminals or other interconnection points will make it very difficult, if not impossible, for CLECs to offer competing services in the instances in which Qwest has deployed DLC systems supporting DSLAM functionality. Even if a CLEC could overcome these technical hurdles, deployment would only make sense if the CLEC could accomplish it at a per-subscriber cost comparable to that which the ILEC could achieve, which is highly unlikely based on the deployment steps and inputs required. *Id.*
419. The economic reality is that remote deployment of transmission equipment and DSLAM functionality by service providers seeking to access copper sub-loop is unlikely to occur in most areas. First, all of the steps enumerated above entail significant costs and lead times (*e.g.*, rights-of-way acquisition, construction of facilities). Second, deployment is only economically viable if the appropriate economies of scale can be realized. In most cases, it will be extremely difficult for CLECs to realize the necessary economies of scale because each remote terminal or FDI at which it must collocate only serves a small number of customers, of which the CLEC will only capture a small percentage. *Id.* at page 43.

420. Remote terminals, and to an even greater extent FDIs, serve a limited number of customers. In general terms, a central office is progressively broken down into smaller and smaller geographical areas for the purposes of local outside plant design. A “Distribution Area” is generally the smallest component, comprised of about 100 to 400 living units with two distribution pairs typically assigned to each unit. A copper cable of appropriate size connects these living units to the FDI where cross-connections are made to a larger branch feeder cable. The branch feeder cable either is a sub-cable within the main feeder cable that connects each distribution pair directly to the central office or is the connecting facility to a remote terminal. *Id.*
421. At the remote terminal, the copper distribution facilities from multiple FDIs are connected to a shared feeder facility that connects to the central office. Transmission equipment (generally referred to as DLC) housed within the remote terminal multiplexes the traffic and, in some instances, performs electrical to optical (and vice versa) signal conversion, which permits an even greater degree of multiplexing and/or a higher transmission rate. In some instances the DLC, particularly newly deployed DLC, will provide enhanced transmission capabilities such as line splitting and DSLAM functionality. The DLC provides efficiencies because it allows one feeder facility to the central office to be shared among multiple subscribers while it also permits the facility between the customer premises and the central office to meet pre-established minimum electrical parameters. *Id.* at pages 43 and 44.
422. The remote terminals may be pole mounted, placed on concrete slabs in the form of cabinets or huts, or placed in underground vaults. The actual size of the physical enclosure will depend on the amount and size of the equipment deployed by the ILEC.

For example, a pole mounted remote terminal will generally house a small DLC with capacities of 24 to 96 lines. A cabinet or vault deployed DLC will typically be larger, with capacity to serve a few thousand customer lines when fully equipped. Deployment of DLC involves a relatively high fixed cost for site preparation and common equipment, with additional costs associated with plug-in circuit packs for individual lines or groups of lines. Thus, for a DLC to be practical and economic, it must be nearly fully utilized by the carrier who has deployed it. The ILEC can realize these necessary economies of scale because it has designed its remote terminals to serve efficiently most of or the entire base of customers assigned to the remote terminal. *Id.* at page 44.

423. In contrast, an individual CLEC will never capture 100 percent of those customers for its advanced services. Accordingly, even taking into account the lost efficiency for the ILEC caused by competition from CLECs, the CLEC's ability to be cost-competitive is highly unlikely given the high fixed costs associated with deploying the necessary electronics and the small size of the addressable customer base serviced by a remote terminal. *Id.* at pages 44 and 45.

424. Thus, to the extent that collocation at a remote terminal or other interconnection point is not possible because (i) there is no space to house a CLEC's DSLAM functionality and readily connect it to the outside plant or (ii) such deployment is cost-prohibitive (both in terms of time and money), competition for customers who are served by remote terminals (or their equivalents) simply will not develop (except in specific market niches). The only way to ensure that competition develops is for service providers to have access to unbundled packet switching capabilities. Accordingly, Qwest must be required to fulfill its limited obligation to unbundle packet switching. *Id.* at page 45.

425. On December 5, 2000, AT&T filed supplemental comments on emerging services, including packet switching. *Exhibit 3-ATT-3*. In these comments, AT&T raised further points on language proposed by Qwest and the unbundling of packet switching in general.
426. As an initial matter, the parties should note that concerns were raised on the record about the application of the FCC's restrictions on access to packet switching and the limits of independent state law grounds for allowing broader application of packet switching. Indeed, as the record demonstrated, there may be reasons unique to Qwest's provisioning of telecommunications services in Colorado as an incumbent that would warrant the Commission's expanding access to packet switching. AT&T's comments are not intended to limit the development of facts related to Qwest's unique network deployment or to restrict CLEC ability to argue for more expansive unbundling of packet switching now or in the future. *Exhibit 3-ATT-3* at page 16.
427. In Qwest's rebuttal testimony, *Exhibit 3-Qwest-2*, Qwest included new language for packet switching. Qwest had previously refused to include packet switching because it deemed that the law requiring unbundling of packet switching would never apply. Although Qwest has provided language, Qwest's rebuttal testimony makes clear that Qwest believes the language is superfluous and that it will never be required to unbundle packet switching. *Exhibit 3-ATT-3* at page 16.
428. AT&T disagrees with Qwest's premise that the four conditions outlined by the FCC will never apply. In its rebuttal testimony, Qwest suggested that it would have no obligation to offer unbundled packet switching to CLECs if four conditions identified by the FCC



are not met. In the session held November 3, 2000, Qwest reiterated the assertion that Qwest would “rarely,” if ever, unbundle packet switching because the four criteria specified in the *UNE Remand Order* would almost never be met. *Id.* at page 17.

429. Qwest did acknowledge at least one set of circumstances in which the four criteria outlined in the *UNE Remand Order* would be met. This set of circumstances would involve end users for which Qwest had provisioned its VDSL offering. Qwest stated that it would likely be required to unbundle packet switching because, in addition to the possible satisfaction of the other criteria, a CLEC could be denied collocation of its own DSLAM. Qwest again asserted, however, that the low number of subscribers for VDSL services would make the unbundling of packet switching extremely rare. *Id.*
430. Materials admitted into the record in the workshop, however, contradict Qwest’s assertion. A press release prepared and released by Qwest on July 19, 2000, and submitted by Joint Commentors as *Exhibit 3-JOINT-3*, admitted (as of the end of the second quarter of 2000) more than 51,000 subscribers to Qwest’s VDSL offering. The same press release admitted 175,000 subscribers to Qwest’s other DSL offerings. Simple arithmetic based on Qwest’s own figures suggests that over 22 percent of Qwest’s DSL services are provided under Qwest’s VDSL offerings. These facts further suggest that the conditions Qwest asserts are required under the FCC’s rule will not be “rare.” The same press release identified VDSL as a contributor to strong Internet and data services growth. *Exhibit 3-ATT-3* at pages 17 and 18.
431. Accordingly, despite Qwest’s assertions that VDSL is a limited offering, nearly a quarter of Qwest’s DSL subscribers are VDSL subscribers. This would suggest that in a fairly

significant number of cases, CLECs will be unable to collocate DSLAMs and that, assuming other criteria are satisfied, a CLEC would be entitled to access to packet switching. *Id.* at page 18.

432. Further, Qwest asserts in its rebuttal testimony that it “stands ready” to provide unbundled packet switching to CLECs if the four conditions are met. Qwest must demonstrate that, as a legal and practical matter, Qwest will provide unbundled switching. It is insufficient to claim, as Qwest does, that this offering will be provided on an individual case basis. Questions were raised at the first session of Workshop No. 3 about Qwest’s internal provisioning efforts and the prices to be charged for packet switching. Indeed, Qwest admits that it “is currently evaluating its ability to develop standardized cost, or at a minimum a cost matrix that can be used in these ICB situations[.]” The parties should be very skeptical of Qwest’s claims that it is ready to offer unbundled packet switching. *Id.*

433. SGAT § 9.20.1 (Qwest’s new packet switching proposal) is a brief definition of packet switching. This language does not reflect the definition of packet switching established in the *UNE Remand Order* at ¶ 304, and it raises concerns that Qwest’s packet switching product by definition does not (or may not) offer required features and functions. Does Qwest’s packet switching product include DSLAM functionality? Does Qwest’s packet switching product offer the ability to terminate copper customer loops (which include both a low band voice channel and a high band data channel) or solely a data channel? Does the product offer the ability to forward the voice channels, if present, to a circuit switch or multiple circuit switches? Do CLECs have the ability to extract data units from the data channels on the loops? Are CLECs afforded the opportunity to combine data

units from multiple loops onto one or more trunks connecting to a packet switch or packet switches? Qwest's provision should specify that its packet switching product provides all these functions and features. *Id.* at pages 18 and 19.

434. AT&T notes that § 9.20.2.1 of the SGAT is intended to capture FCC Rule 51.319. However, Qwest's proposal does not track the FCC's rule in several seemingly material ways. Qwest must modify this provision or explain why it has chosen not to follow the precise language set forth in the FCC rule. *Id.* at page 19.
435. SGAT §§ 9.20.2.2 through 9.20.2.5 specify certain restrictions on a CLEC's access to packet switching. When packet switching is made available to CLEC, it must be made available at any technically feasible point. Qwest must modify these provisions to assure that CLECs are afforded the broadest possible access. *Id.*
436. Qwest states in SGAT § 9.20.2.6 that it will provision CLEC's specified option "as available." Qwest must demonstrate what makes an option available or unavailable. *Id.*
437. Section 9.20.2.7 of the SGAT prohibits CLEC access to "Qwest's Packet Management Systems." Qwest must explain what these packet management systems do and whether they are essential to the operation of packet switching. Further, Qwest must explain its reasons for not making these systems available. If these systems are essential, or are a feature or functionality of the UNE, Qwest cannot avoid making them available to CLECs. *Id.* at pages 19 and 20.
438. SGAT § 9.20.3 outlines Qwest's proposed rate elements. As a general matter, Qwest's proposal for rate elements is at odds with Qwest's assertion in its testimony that Qwest is

exploring ways to develop a rate matrix. Further, establishing separate rate elements for “Unbundled Packet Switch Customer Channel,” “Unbundled Packet Switch Loop Capability,” and “Unbundled Packet Switch Interface Port,” coupled with the distinct ordering processes outlined in § 9.20.4.3, suggest that these are separate UNEs, not only separate rate elements. Qwest must demonstrate whether these items are separate UNEs. *Id.* at page 20.

439. SGAT § 9.20.3.1 asserts that both a recurring and non-recurring rate will apply but does not describe why. Further, this section declares that rates will vary based on bit rates. Although AT&T does not necessarily disagree with Qwest’s methodology, Qwest should explain its rationale behind setting these rates. *Id.*
440. Section 9.20.3.2 describes a charge for “Loop Capability” which includes loop facilities between the remote DSLAM and the customer premises. Qwest’s provision suggests that Qwest will provide packet switching always as part of a combination. Qwest must confirm this. *Id.*
441. Section 9.20.4 sets forth the ordering process for packet switching. Section 9.20.4.1 appears to require a CLEC to demonstrate that it has been denied access to place a DSLAM in a “remote Qwest Premises.” The process outlined by Qwest does not clearly indicate how this demonstration is to be made. *Id.*
442. Likewise, Qwest requires a CLEC to establish continuity between CLEC’s network and an unbundled packet switch customer channel. How and to whom is this demonstration to be made? Can this demonstration be made without connectivity? *Id.* at page 21.

443. SGAT § 9.20.5 sets forth Qwest's maintenance and repair responsibilities, which incorporate by reference § 12 of the SGAT. Qwest asserts here that maintenance and repair responsibilities are solely Qwest's responsibility. AT&T believes that certain responsibilities, such as cooperative testing, may require the cooperation of both CLEC and Qwest. If so, this provision should be modified to provide for such additional joint maintenance and repair responsibilities. *Id.*
444. AT&T notes that § 12 has not yet been discussed in this proceeding. Before final approval of Qwest's § 271 application is completed, maintenance and repair provisions, which are material to Qwest's satisfaction of the § 271 checklist, must be reviewed. *Id.*
445. Finally, AT&T raises the issue of Qwest's suggestion, almost as an afterthought, that Qwest may deploy DSLAMs "on a broader basis." Instead of acknowledging that Qwest would likely have to provision unbundled switching if in fact it elects to deploy DSLAMs more broadly, Qwest asserts in its rebuttal testimony, without citation to any controlling authority, that a CLEC would have an obligation "to provide its deployment plans to Qwest, on a confidential basis, so that Qwest can appropriately size the cabinets." CLECs may find it advantageous to have Qwest resize their cabinets. However, CLECs may find it as unappealing to provide deployment plans to Qwest. Accordingly, a CLEC may desire to have the option to provide deployment plans to Qwest, but should have no obligation. More importantly, Qwest should be able to "right-size" cabinets without explicit deployment plans from CLECs. *Id.* at pages 21 and 22.
446. In WorldCom's prefiled testimony of Mr. Thomas Priday, *Exhibit 3-WCom-1*, WorldCom expresses one overarching concern. Paragraph 313 of the *UNE Remand*

*Order* requires ILECs to provide CLECs with access to unbundled packet switching if the ILEC has placed its DSLAM in a remote terminal and does not allow the CLEC to collocate its DSLAM in that remote terminal under the same terms and conditions that apply to ILEC's own DSLAM. In addition, the *UNE Remand Order* establishes packet switching as a UNE. However, in spite of these requirements, Qwest's SGAT fails to provide for unbundled packet switching under these, or any, circumstances. In the Supplemental Affidavit of Karen A. Stewart, page 45 (*Exhibit 3-Qwest-1*), Qwest asserts that "CLECs can utilize the BFR process to request an alternative arrangement." This clearly does not meet the requirements of the FCC's orders. *Exhibit 3-WCom-1* at page 15.

447. Similarly, Covad expressed some overarching concerns with Qwest's unbundling of packet switching in its Initial Comments filed on October 10, 2000. *Exhibit 3-Covad-1*.
448. The FCC has articulated that packet switching must be offered as a UNE when loops are provided via DLC or related technology, CLECs are unable to obtain spare copper loops, and CLECs are not able to install DSLAM equipment at the remote terminal. *UNE Remand Order* at ¶ 313. It does not appear that Qwest intends to comply with all of the FCC rules and regulations on packet switching. *Exhibit 3-Covad-1* at page 18.
449. It is clear that the Packet Switching section of the SGAT needs modification and augmentation. The scope of those required changes is vast. Covad anticipates that the parties will discuss specific modifications and the implementation of competition-safeguarding measures at the upcoming workshop and suggests that several issues be addressed. *Id.*

450. Unless CLECs are provided access to packet switching at remote terminals, emerging services competition may never evolve in areas of the network served by Qwest NGDLC. Only Qwest, or its data affiliates, will have access to the short copper loops needed to support these new services. *Id.*
451. If CLECs are required to collocate DSLAMs in remote terminals, the economics will never justify the expense; and competition will likely never occur. Many of these remote terminals support fewer than a thousand lines. *Id.*
452. As these fiber fed systems are deployed, less and less copper will be available for use by CLECs, as this copper will be used to reinforce demand closer to the central office. Some of the older copper will likely be retired. *Id.*
453. Any NGDLC deployed by Qwest, or a data affiliate, should be required to be unbundled immediately, in order to promote competition for data services in the more distant areas of the network. *Id.*
454. CLECs must be able to place their own DSL cards in these Qwest NGDLC systems. This will allow CLECs to choose the services they wish to provide to their customers. *Id.*

#### **4. Qwest's Response**

455. On October 25, 2000, Qwest witness Karen A. Stewart filed a rebuttal affidavit to reply to the testimony of numerous parties concerning emerging services now available to CLECs in Colorado, including unbundled packet switching. *Exhibit 3-Qwest-2.*

456. Both AT&T and WorldCom filed comments regarding Qwest's obligation to provide unbundled packet switching, referencing ¶ 313 of the *UNE Remand Order* as the basis for their assertion that Qwest must unbundle packet switching. Qwest restates that its obligation to unbundle packet switching is directly related to whether Qwest has placed DSLAMs in a remote terminal. To cover AT&T and WorldCom's concerns, Qwest has developed SGAT language for the provision of unbundled packet switching. Given the current status of packet switching, Qwest stands ready to provide unbundled packet switching on an ICB in Colorado in the unlikely event that the four conditions outlined by the FCC were to exist. Qwest currently is evaluating its ability to develop standardized cost, or at a minimum a cost matrix that can be used in these ICB situations, with the intent to minimize the amount of ICB pricing involved with this product offering. *Exhibit 3-Qwest-2* at pages 61-64.
457. AT&T proposed that Qwest have an obligation to provide unbundled packet switching even if spare copper loops were available to a CLEC, if those loops were longer than the copper loops Qwest or another CLEC may be utilizing. Qwest does not accept this AT&T proposal. The FCC has not put any obligation on ILECs to ensure that copper loops of a similar length are available to CLECs. The only "qualifier" in regard to copper loops that can be inferred from the FCC comments regarding the profile of the copper loops is that the loops be capable of being conditioned to support xDSL services. *Id.* at pages 64-65.



## **5. Principal Workshop Discussions and Resolution**

458. Workshop 3 technical discussions on Emerging Services (access to dark fiber, sub-loops, line sharing, and packet switching) occurred during 10 separate sessions held on October 31, 2000; November 1, 2, and 3, 2000; December 12, 13, 14, and 15, 2000; and April 19 and 20, 2001.
459. A detailed summary of the discussions related to access to packet switching can be found in the Colorado Issues Log included at Appendix A of this report and will not be repeated here for the sake of brevity. The discussions were protracted and exhaustive, and participants were given ample opportunity to flesh out their respective issues and to have them fully discussed.
460. During Workshop 3, the issues raised by participants in testimony or comments regarding the provisions of Qwest's SGAT were discussed and fully addressed. Except for the disputed issues that reached impasse, the issues were resolved by consensus among the participants. This consensus was reached by Qwest's agreement to alter the SGAT provisions in accordance with the comments of the participants, based upon the merits of the issues raised. In other cases, the participants accepted Qwest's rationale and justification for not agreeing to proposed changes.
461. With the exception of the impasse issues, there are no remaining disputes among participants regarding the packet switching provisions of Qwest's SGAT.
462. The remaining portion of this section of the report describes the disputed issues concerning packet switching that could not be resolved by consensus of the participants

during Workshop 3 and which reached impasse. The Commission will consider these issues in accordance with the dispute resolution process agreed to by the participants and ordered by the Commission for this proceeding. The results of the resolution of the impasse issues by the Commission will be presented in IIIA in this series of Staff reports. The Commission's decisions in resolving the impasse issues will specify what the Commission believes is required of Qwest to achieve compliance with the requirements of the Act and the FCC with regard to the impasse issues.

463. The following is a brief description of the impasse issues related to packet switching and is not intended fully to reiterate the positions of the parties with respect to these issues. The parties' complete briefs are available to the Commission for its consideration in resolving the impasse issues.

#### **6. Packet Switching Impasse Issues:**

464. **PS-2. Whether the existing SGAT language at § 9.20.2.1.2 (no spare copper loop availability) is proper and in compliance with the FCC's requirements.** AT&T argues that the SGAT language should be modified to account for the circumstances in which there are insufficient existing spare copper loops to satisfy potential demand and existing copper loops may not adequately provide for the capabilities that CLECs desire. Covad argues that the use of spare or "home run" copper loops to provision xDSL service is far from being a feasible alternative for CLECs to compete with Qwest and that this SGAT provision should not apply. Qwest argues that the SGAT provision in question is copied word for word from the FCC rule. Moreover, the FCC recently sought comment regarding whether the limited obligation to unbundled packet switching should be

expanded. The appropriate place for CLECs to make their arguments is before the FCC, not in this proceeding.

465. **PS-3. Whether the existing SGAT language at § 9.20.2.1.3 (CLEC not permitted to collocate its own DSLAM at remote Qwest DSLAM premises) is proper and in compliance with the FCC's requirements.** AT&T, with Covad concurring, asks that the Commission order Qwest to modify the SGAT language to allow packet switching to be unbundled when it is economically infeasible for a CLEC to deploy remote DSLAMs. This is the only way to ensure that competition develops. Qwest argues that this SGAT condition tracks the FCC's rule as a prerequisite to unbundled packet switching. As before, this issue is beyond the scope of this proceeding; and CLECs' arguments are appropriately made in response to the FCC's request for comments.

466. **PS-4. Whether Qwest is required to allow CLECs to place line cards into Qwest's remote DSLAMs even if the four conditions for unbundling packet switching are not satisfied.** Covad argues that a critical component of its proposed unbundled access to Qwest's packet-switched NGDLC functionality is the ability virtually to collocate DSL line cards at Qwest remote terminals. Moreover, the Illinois Commission recently determined that such activity is technically feasible. Sprint argues that Qwest should be required to unbundle packet switching even if the four SGAT conditions are not met. Where Qwest had deployed NGDLC facilities, CLECs should be allowed card-at-a-time virtual collocation to preclude Qwest from having a substantial competitive advantage. Qwest asserts that it has no existing obligation to provide what the CLECs are requesting. This proceeding is not the appropriate place to decide the issue.

## **7. Staff Compliance Assessment**

467. The technical discussions held during Workshop 3 concerning nondiscriminatory access to packet switching that were addressed in this workshop were exhaustive and thorough, with each participant having ample opportunity to raise its issues and to have them thoroughly discussed. Additionally, extensive testimony, comments, and exhibits were filed to add to the record of this investigatory proceeding.
468. The primary focus of the workshop was to address the terms and conditions of Qwest's SGAT to assess the adequacy of Qwest's concrete and specific legal obligation to provide nondiscriminatory access to packet switching in accordance with the requirements of the Act and the FCC. The workshop discussions provided Staff the opportunity to hear in detail the positions of the participants regarding the multitude of issues that arose and to evaluate the appropriateness of compromises that were crafted to resolve disagreements by consensus of the participants. The terms and conditions of Qwest SGAT were thoroughly and rigorously reviewed.
469. For the issues that reached impasse, briefs were filed by participants. The Commission will consider these briefs and other information, as may be requested by the Commission, and will resolve the impasse through the dispute resolution process ordered by the Commission in this docket. The Commission's decisions to resolve the issues in dispute will be incorporated into Volume IIIA in this series of Staff reports.
470. Subject to the Commission's resolution of the issues in dispute (which will reveal the Commission's decision regarding what is required for compliance regarding these issues), a demonstration that those decisions have been implemented, and a

demonstration that Qwest has incorporated into the SGAT the language agreed to during the workshop, Staff's assessment is that the terms and conditions of Qwest's SGAT otherwise meet the requirements of the Act and the FCC with regard to the provision of nondiscriminatory access to packet switching by competitors. This assessment is based upon the testimony, comments, exhibits, and workshop discussions.

471. Except for the impasse issues, the terms and conditions of Qwest's SGAT regarding access to packet switching are not otherwise disputed by participants.
472. The determination of whether the SGAT rates for unbundled packet switching are just and reasonable will be made by the Commission in the companion cost docket proceeding (Docket No. 99A-577T).
473. Qwest must also demonstrate that it currently furnishes, or is ready to furnish, access to packet switching in quantities that competitors may reasonably demand and at an acceptable level of quality. To assess Qwest's current performance, this Commission will rely on the results of the ROC OSS Test and other evidence, including Colorado-specific commercial usage experience of competitors, that may be brought to the Commission's attention.
474. Staff will provide its assessment of Qwest's actual performance with respect to unbundled network elements at such time as the ROC OSS Test results and any other evidence are incorporated into this proceeding.

## **IV. CONCLUSIONS**

### **A. GENERAL CONCLUSIONS**

475. 47 U.S.C. § 271 contains the requirements that a BOC must satisfy to be authorized entry into the in-region, interLATA market.
476. Qwest is a BOC as defined in 47 U.S.C. § 153 and currently may only provide interLATA services originating in any of its in-region states if the FCC approves Qwest's application for relief under 47 U.S.C. § 271(d)(3).
477. The Colorado Commission is a "state commission" as that term is defined in 47 U.S.C. § 153(41).
478. Pursuant to 47 U.S.C. § 271(d)(2)(B), before making any determination under this subsection, the FCC is required to consult with the state commission of any state that is the subject of the application in order to verify the compliance of the BOC with the requirements of subsection (c).
479. In order to obtain § 271 authorization to provide in-region, interLATA services, the BOC must, *inter alia*, meet the requirements of § 271(c)(2)(B), the Competitive Checklist.

### **B. CHECKLIST ITEM NO. 2 – EMERGING SERVICES CONCLUSIONS**

480. Checklist Item No. 2 requires Qwest to provide or offer to provide "nondiscriminatory access to network elements in accordance with §§ 251(c)(3) and 252(d)(1)." Section 251(c)(3) requires that Qwest provide access to unbundled network elements "at any technically feasible point" and in a manner that "allows requesting carriers to

combine such elements.” Section 252(d)(1) establishes pricing standards for UNEs, which shall be nondiscriminatory and “based on cost” plus a “reasonable profit.”

481. UNEs under § 251(c)(3) as set forth in Rule 51.319, includes loops, sub-loops, NIDs, local circuit switching, dedicated and shared transport, dark fiber, signaling, call-related databases, and operations support systems. Workshop 3 dealt with the provision of unbundled access to the Emerging Services related to dark fiber, sub-loops, line sharing, and packet switching. Other specific UNEs were addressed in other workshops and are discussed in those other reports.

482. Section 251(d)(1) of the Act requires the FCC to establish regulations to determine which network elements must be provided on an unbundled basis. Section 251(d)(2) of the Act requires the FCC, when determining what network elements should be made available, to consider, at a minimum, whether “access to such network elements as are proprietary in nature is *necessary*” and whether “the failure to provide access to such network elements would *impair* the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.” (Emphasis supplied.)

483. The Act requires Qwest to provide unbundled network elements in a manner that enables a CLEC to combine them to provide telecommunications services. The Act states that ILECs shall “provide unbundled network elements in a manner that allows requesting carriers to combine such elements in order to provide such telecommunications service.” 47 U.S.C. § 251(c)(3).

484. Workshop 3 dealt primarily with assessing the terms and conditions of Qwest’s SGAT. There are disputed issues remaining that reached impasse and that will be resolved by the

Commission. The Commission's decisions will determine what changes, if any, will be required in Qwest's SGAT to provide nondiscriminatory access to network elements as required by the Act and the FCC. Subject to a demonstration that the Commission's dispute resolution decisions are implemented and a demonstration that Qwest has incorporated the agreed-upon provisions into the SGAT, the terms and conditions of Qwest's SGAT otherwise meet the requirements for nondiscriminatory access to network elements of Checklist Item No. 2 regarding the Emerging Services related to dark fiber, sub-loops, line sharing, and packet switching that were discussed in Workshop 3 and demonstrate that Qwest has a concrete and specific obligation to provide nondiscriminatory access to such network elements. Except for the impasse issues, the terms and conditions of Qwest's SGAT are not otherwise disputed by participants.

485. The Commission subsequently will determine whether the rates for those unbundled network elements are just and reasonable in the Commission's companion cost docket (Docket No. 99A-577T).
486. Qwest's current actual performance with respect to Checklist Item No. 2 will be evaluated upon completion of the ROC OSS Test and the review of any other evidence, including Colorado-specific commercial usage experience, that may be brought to the Commission's attention.



## APPENDIX A

### Qwest's Colorado Application To Provide In-Region, InterLATA Service (Section 271 of the Telecommunications Act of 1996) Colorado PUC Docket No. 97I-198T

#### COLORADO ISSUES LOG (COIL) Workshop 3 – Emerging Services

#### DARK FIBER

| Issue ID#      | SGAT §               | Description of Issue and Resolution  | Status |
|----------------|----------------------|--|--------|
| DF-2a<br>DF-12 | 9.7.3.1.3<br>9.7.3.1 | Will Qwest allow a CLEC to order Dark Fiber (DF) between its (CLEC's) collocation cage and one of another CLEC? Qwest will allow CLEC to CLEC DF language change to §§ 9.7.3.1 and 9.7.3.1.3 by 1/5/01. Qwest stated that this issue is whether Qwest will allow a CLEC to order DF if the fiber originates in one CLEC's collocation cage and terminates in a termination cage built and owned and controlled by a different CLEC. AT&T recommended wording changes to SGAT § 9.7.3.1.3 and acceptance of the elimination of a section, so that § 9.7.3.2 became § 9.7.3.1. These changes are accepted by Qwest and others so issues DF-2a and DF-12 were closed. (Tr. 1214/00, pp. 50-62)  | Closed |
| DF-2b          | 9.7.5.2.3            | Issue re installation intervals for EUDIT. AT&T and Qwest reviewed KAS Exhibit C. Qwest developed wording re UDIT time interval overlap. Modification to language by 1/5/01. The Issue concerns installation intervals for unbundled DF. Qwest stated that mid-point meet or remote collocation termination intervals are still determined by ICB. AT&T stated that in addition to a collocation window installation interval, where AT&T goes to a mid-point meet with DF, there would still be an installation interval on top of that. Qwest confirmed this. AT&T stated that the installation of DF interval and the collocation interval could run concurrently. Qwest confirmed this also. Qwest agreed to revise SGAT § 9.7.3.2 to state that an order for UDF could proceed without collocation arrangements being completed. Subject to approval of the language, this issue is closed. (Tr. 12/14/00, pp. 68-73) | Closed |

## DARK FIBER

| Issue ID#     | SGAT §              | Description of Issue and Resolution  | Status           |
|---------------|---------------------|--|------------------|
| DF-4b         | 9.7.2.5<br>9.7.2.10 | <p>Availability and obligation to provide DF. Qwest developed wording for §§ 9.7.2.5 and 9.7.2.10. AT&amp;T proposed an additional sentence to subsection (b) of § 9.7.2.5 which Qwest accepted, as did the other parties. Qwest agreed to incorporate a statement that should a request be denied, that denial would be in writing. Qwest agrees with the concept that a CLEC should be able to retain maintenance spares, when not currently serving end user customers, be limited to a maximum of 5%.</p> <p>Provisioning process. Add “written denial” to the provisioning process described in SGAT § 9.7.3.1.2.</p> <p>Reclamation process. Add last sentence of SGAT § 9.7.2.4 concerning efficient use of DF to SGAT § 9.7.2.10. AT&amp;T and WorldCom concurred with Qwest that subject to new language in § 9.7.2.10 that issues DF-4b and DF-5 were closed. WorldCom and AT&amp;T plan to propose new language for §§ 9.7.3.1.2 and 9.7.2.10 regarding use of DF during the conduct of a Commission proceeding. AT&amp;T and WorldCom agreed to close these issues subject to the wording. Section 9.7.3.1.2 was added to this issue and closed, subject to AT&amp;T writing language that WorldCom must review as well.</p> | <b>Closed</b>    |
| DF-4c         | 9.7.2.9             | <p>ICG’s concern that Qwest is imposing limitation on DF, and its restrictions are exceeding FCC rules re EUDIT. Qwest disagrees. See also SGAT § 9.23.7.2. ICG’s concern with § 9.7.2.9 is that Qwest is imposing usage limitations for unbundled DF, either loop or transport. These usage restrictions greatly exceed FCC rules on the use of enhanced extended loops for which the FCC requires that a significant amount of local exchange traffic be carried over that unbundled element. That restriction is only imposed by the FCC on the enhanced extended loop. (Tr. 12/14/00, p. 33)</p>   | <b>Impasse</b>   |
| DF-6          | 9.7.3.1             | <p>AT&amp;T concerns for collocation in wire center, need for intervening wire center. Qwest rewrite. WorldCom stated that it accepted the elimination by ICGF requirements. (Tr. 12/14/00, p. 46)</p>   | <b>Closed</b>    |
| DF-7a, b, & c | None                | <p>Qwest will make any connections necessary for DF when these elements are ordered in combination; collocation is not required on the terminating end of the loop or the EUDF. (Tr. 12/14/00, p. 39). Should the DF terminate in one of Qwest’s central offices, network demarcation points would need to be established, e.g., collocation. (Tr. 12/14/00, p. 39) WorldCom proposed to delete the statement that the CLEC must have collocation of both terminating points in the UDF IOF, SGAT § 9.7.2.12. WorldCom recommended adding a reference to CLEC designating 5% of its fibers in SGAT §§ 9.7.2.4 to 9.7.2.10, rephrasing the term “subject to termination requirements” to say “subject to reclamation requirements.” Qwest agreed to that change. AT&amp;T proposed and Qwest accepted new language for SGAT § 9.7.3.1.2 regarding notification to CLECs by Qwest concerning CLEC for UDF pursuant to § 9.7.2.5(b). (Tr. 12/14/00, pp. 43-45) These combined issues DF-7a, b, and c all of which were considered closed.</p>   | <b>See Below</b> |
| DF-7a         | 9.7.1               | Description of UDF. Language modification to § 9.7.1.  | <b>Closed</b>    |
| DF-7b         | 9.7.2.12            | Does Qwest provide DF jumper work and collocation requirements at parity? Language modification from WorldCom?   | <b>Closed</b>    |
| DF-7c         | 9.7.2.12<br>9.7.3.2 | Ordering process/collocation arrangement. Language modification for § 9.7.3.1.2.   | <b>Closed</b>    |
| DF-7d         | 9.7.2.12            | Is collocation at terminating office necessary? Language modification from WorldCom.   | <b>Closed</b>    |

## DARK FIBER

| <b>Issue ID#</b> | <b>SGAT §</b> | <b>Description of Issue and Resolution</b>   | <b>Status</b>  |
|------------------|---------------|--|--|
| DF-7e            | 9.7.5.2.3     | EUDF Rate Elements (wording under development). Qwest to prepare wording for § 9.7.5.2.2 by 1/05/01.   | <b>Closed</b>  |
| DF-10            | 9.7.2.15      | Remote collocation – access to DF. Deferred to Collocation Workshop. Qwest requires access at mid-point structure for UDF be done pursuant to remote collocation provisions of SGAT § 9.7.2.1.5. Group arrangements would be subject to the remote collocation section and provisions rather than the DF section. Covad agreed. This issue was referred to the Collocation Workshop. (Tr. 12/14/00, pp. 46-48)   | <b>Collocation Workshop</b>  |
| DF-13            | 9.7.2.2       | Three issues: confidentiality, negligence, and failure to use forecasts. AT&T says stop at line six in SGAT § 9.7.2.2 after the word “forecasts” so that the sentence reads “Qwest shall have no duty to consider or use such forecasts.” Qwest accepted AT&T’s recommendation. Qwest stated that it has no duty to build DF facilities to CLEC forecasts; however, it has the discretion to do so if it wishes. (Tr. 12/13/00, pp. 206-208) Forecasting should be covered in Forecasting Workshop. Negligence deferred to GT&C Workshop. Forecasting deferred to Forecasting Workshop. Confidentiality will be covered in SGAT § 9.4.2.1.7 – delete SGAT § 9.7.2.2 and reserve it for future use. (Tr. 12/13/00, pp. 182-190) Qwest believes that it does not have any obligation to build DF facilities for CLECs; therefore, does not wish to accept CLEC DF forecasts. AT&T stated that CLECs would like to be better placed to not provide the forecast at all and agreed to reserve SGAT § 9.7.2.2 for future use. | <b>Closed/<br/>Deferred to<br/>GT&amp;C &amp;<br/>Forecasting<br/>Workshop</b> |

## DARK FIBER

| Issue ID# | SGAT § | Description of Issue and Resolution  | Status         |
|-----------|--------|--|----------------|
| DF-14     | 9.7.1  | <p>Issue of whether Qwest is leasing DF from non-affiliates. Deployed versus leased. Difference in definition. Qwest stated that it has no obligation to provide leased DF since there is no such obligation in the law at this time. It further stated that the § 271 proceeding is an improper place to fashion brand new UNEs. A second reason is that leased DF does not meet the impair standard for UNEs. Also the TELRIC standard does not fit with leased DF that Qwest leases at market rates. The FCC has announced that TELRIC is the way to price UNEs. Also, the owner of the DF which Qwest leases does not want a sub-lease of the same fiber that it has leased to Qwest. Finally, when Qwest leases fiber it uses it, lighting it which eliminates its classification as DF. AT&amp;T claimed that if there are facilities that Qwest claims are not BOC facilities that are providing local exchange services, they should be available to CLECs. AT&amp;T further stated that there may be assets that Qwest has that are not organized or held by what Qwest terms or describes the BOC, that are being used to provision or provide some sort of local service; and that those facilities also should be available under the Act to competing carriers. Qwest stated that all of the Local Exchange assets in the region are with the RBOC, so the classic Qwest would not have DF that provides local exchange service. (This discussion also applies to Issue DF-15.) AT&amp;T questioned whether Qwest provisions local services through any assets not owned by the RBOC and how CLECs will be afforded access to these services in a manner consistent with other requirements of the Act. Qwest stated that its position is that leased fiber should not be offered as a UNE; it is not TELRIC based (Qwest pays whatever the company from whom it leases DF charges) and Qwest does not make unbundled DF available as a UNE. Qwest defined issue DF-14 to cover only fiber leased from another entity other than an affiliate. (Tr. 12/13/00, p. 177) Staff questioned whether Qwest extended the term “deploy” to assets that Qwest thought were used and useful in delivery of services, hence, its network, including leased fiber. Staff disagreed with Qwest’s position that because Qwest leased DF, it is not part of its network. AT&amp;T expressed concern that if Qwest started leasing UNEs or leasing network elements instead of building them, Qwest could effectively use that as a technique to preclude CLECs from using the same network facilities in a competitive manner. Qwest reiterated its position that when it leases fiber, it does not need to make it available as an unbundled network element called Unbundled DF. AT&amp;T joined Staff in declaring this an impasse issue. (Tr. 12/13/00, pp. 180-182)</p> | <b>Impasse</b> |

## DARK FIBER

| Issue ID# | SGAT §    | Description of Issue and Resolution   | Status  |
|-----------|-----------|---|---|
| DF-15     | 9.7.1     | A series of questions re Qwest pre and post-merger<br>Did pre-merger classic Qwest offer local service?<br>If so, what happened to customers and tariffs?<br>Are any classic Qwest assets in use for local service?<br>What do Colorado statutes require?<br>Qwest provided answers to questions.<br>Qwest stated that classic Qwest did not own pre-merger local exchange assets or SONET ring in the Denver area. There were no asset transfers as a part of the merger; specifically, there has been no filing in Colorado of a case for an asset transfer. Fiber is leased, but not DF, between classic Qwest and Classic U S WEST. Qwest Corp. (Classic U S WEST) leases fiber from Classic Qwest and lights it as soon as it gets it, so none of it is dark.  | <b>Closed</b>   |
| DF-16     | None      | Testing of DF. (See 10/31/00 wording.) Modification of language for testing options by 1/5/01. The issue is that CLECs were concerned that Qwest did not do additional testing at the time of turn-up or turn-over to the CLEC of DF. Qwest proposed a cooperative testing alternative-a continuity type of test where the CLEC would light its end, and Qwest would confirm that it could see the light at the other end. Qwest also proposed that within 72 hours of order completion, it would allow CLECs (on identification of a problem) to reach the design center techs that did the installation in order to speed up inquiry and repair. Covad stated that the 72-hour window was a very reasonable option so it found it acceptable, as did AT&T. Qwest agreed to put this language in the IRRG, as well as in the SGAT. (Tr. 12/14/00, pp. 73-79) | <b>Closed</b>   |
| DF-17     | 9.7.2.4   | Wavelength unbundling. (See 10/31/00 wording.) Not currently required by FCC – Qwest will modify SGAT if it is an obligation in the future. Qwest does not believe that the unbundling of wavelength is truly a DF requirement since it takes electronics to create the wavelength; so it's lit fiber at that point. Qwest stated that the FCC does not require wavelength unbundling in CC Docket No. 96-98, the Fifth Further Notice of Proposed Rulemaking. (Tr. 12/13/00, pp. 215-218) The decision number is FCC 00-297, dated August 10, 2000. It is in the Order on Reconsideration and Second NPRM, pp. 98-147, and Fifth Further Notice for FMPRM, pp. 96-98, ¶ 121.   | <b>Closed</b>   |
| DF-18     | 9.7.2.4   | Qwest agreed to make single strand available by 5/31/01. Qwest will modify SGAT language by 1/5/01. Issue closed subject to review of SGAT language. Qwest committed to accelerate the availability date if possible.   | <b>Closed</b>   |
| DF-19     | 9.7.5.2.1 | UDF – IOF rate elements. Refer cost reasonableness comments to cost docket. Qwest to include in 1/5/00 filing. The issue is “if a cross-connect existed in an intermediate office at the time an inquiry was done, would the CLEC have to pay the cross-connect?” Qwest stated that the CLEC would have to pay the recurring cost of the cross-connect because it was covered separately from the cost of the actual DF. (Tr. 12/14/00, pp. 65-66)<br>However, CLECs would not pay the non-recurring charge because the non-recurring charge is where Qwest recovers the cost of putting in the cross-connect. AT&T accepted Qwest's proposal. The opinions on the fairness of costs themselves are referred to the cost docket. Qwest agreed to change SGAT § 9.7.5.2.1.1 to reflect these agreements. DF-19 is closed. (Tr. 12/14/00, p. 67)                | <b>Closed</b><br><b>Cost</b><br><b>elements</b><br><b>deferred to</b><br><b>Cost</b><br><b>Docket</b> |

## SUB-LOOP

| Issue ID# | SGAT §             | Description of Issue and Resolution  | Status                     |
|-----------|--------------------|--|----------------------------|
| SB-1      | 9.3.1.1<br>9.3.4.3 | AT&T has concerns how to access sub-loops, mainly in Building Terminals, including concern for variety of circumstances under which access may be required. (See SB-12). (Tr. 12/03/00, p. 156) Special concern with MTEs. (Tr. 12/03/00, p. 159) AT&T does not agree that the FCP solution will work in all cases. (Tr. 12/03/00, p. 156) AT&T will provide additional language focusing on “Open Building Terminals.” (Tr. 12/13/00, p. 156) Qwest will provide alternate wording for the same subject. Unbundled sub-loop feeder is the only remaining issue open as of 12/13/00. (Tr. 12/13/00, p. 154) Qwest position is that the most common access points have been identified and it is not necessary to identify all possible access points. (Tr. 12/13/00, pp. 134-135)  | <b>Combined with SB-12</b> |
| SB-2      | 9.3.1.1            | Whether FDIs and DLCs are the same. Explanation by Qwest is that the DLC and FDI are not the same and that the distance between them can vary considerably. (Tr. 12/13/00, p. 5) Considerable discussion also covered under SB-1. (Tr. 12/03/00, pp. 5-7)  | <b>Closed</b>              |
| SB-6      | 9.3.1.1            | Will Qwest provide access to all sub-loop elements and types, more specifically, the issue is the definition of “accessible terminal” verses “technically feasible point.” Qwest will provide access at any accessible terminal which includes feeder distribution interface, service area interface, minimum point of entry. (Tr. 12/03/00, p. 88) Qwest uses the term “accessible terminal” to avoid language issues and definitions if naming specific access points. (Tr. 12/03/00, p. 88) CLECs are concerned with what specific products would be ordered to allow access to the “accessible terminal.” (Tr. 12/13/00, pp. 89-90) AT&T is concerned that only a limited subset of sub-loops is made available under the SGAT. AT&T wants the SGAT expanded to include at least all the elements and access points described in its comments. (Tr. 12/12/00, p. 87) The set of product offering to be included with SGAT § 9.3.1.2 SB-12. (Tr. 12/13/00, p. 93)   | <b>Closed</b>              |
| SB-11     | 9.3.1.1            | Will Qwest allow CLEC access to high frequency portion of the distribution loop for DSL services? Qwest agrees to make the high frequency portion of the distribution loop available. (Tr. 12/13/00, p. 95) AT&T is concerned that the language in SGAT § 9.3.2.1 refers specifically to 300-3000 Hz and this would thus preclude access to the high frequency range. (Tr. 12/13/01, p. 96) Qwest responded that the frequency range listed is related to what is guaranteed on an ordered loop. Qwest does not want to guarantee that an analog loop can provide digital or other services even though under certain conditions, such as being unloaded, it might. (Tr. 12/13/00, pp. 96-97) AT&T suggested dropping the frequency range wording in SGAT § 9.3.2.1 which eliminates guarantee of any frequency range. “Essentially, you get what you get.” (Tr. 12/13/00, p. 97) Qwest agreed to the wording change. (Tr. 12/13/01, p. 98) SGAT § 9.3.2.2 covers this offering to CLECs – language modification to SGAT § 9.3.2.1. Considerable discussion about product offerings by Qwest referred to SB-12. (Tr. 12/13/00, p. 105) | <b>Closed</b>              |

## SUB-LOOP

| Issue ID# | SGAT §   | Description of Issue and Resolution  | Status  |
|-----------|--|--|---------|
| SB-12     | 9.3.1.2  | AT&T says Qwest does not offer enough variety or products in standard sub-loops. Specifically, creating a feeder from the central office to FDI as sub-loop. (Tr. 12/13/00, p. 108) Qwest disagrees and argues that there is no demand for this product and it will not create product offering for which there is no reasonable demand. AT&T wished to make the product available through this process and avoid a potential lengthy delay should the need arise later and require an amendment. (Tr. 12/13/00, pp. 105-108)  | Impasse |
| SB-13     | 9.3.1.1  | Whether the definition of “accessible terminal” should omit the prerequisites of no digging or trenching. WorldCom requested striking the language regarding digging and trenching. (Tr. 12/13/00, p. 111) Qwest struck the language that concerned WorldCom which closes the issue. (Tr. 12/13/00, p. 111) Delete language from SGAT § 9.3.1.1.   | Closed  |
| SB-14     | 9.3.1.1  | Is SGAT § 9.3.1.1 consistent with the FCC’s definition of a sub-loop? FCC pp. 99-238, ¶ 206. Also discussed in reference to SB-2. (Tr. 12/13/00, p. 111) The specifics include accessible terminal Language modification to § 9.3.1.1 to state that CLECs can use any feature functionality of a sub-loop. (Tr. 12/13/00, p. 112) Further language modifications to clarify that listed plant is actually an example of accessible terminal. (Tr. 12/13/00, p. 113) With language modifications, the issue is closed. (Tr. 12/13/00, p. 114)   | Closed  |
| SB-15     | 9.3.1.1  | Should Qwest explain Serving Area Interface (SAI) in more detail? SAI is synonymous with FDI. SAI is more commonly used in the Pacific Northwest. (Tr. 12/13/00, p. 115) Clarification by Qwest that SAI and FDI are synonymous was sufficient clarification and the issue was closed. (Tr. 12/13/00, p. 116)  | Closed  |
| SB-16     | 9.3.3<br>9.3.3.5<br>9.3.5.4.1<br>9.3.5.4.4<br>9.3.5.4.5<br>9.3.8.6 | Whether the SGAT’s provisions for access to MTE sub-loop elements at accessible terminals is consistent with the FCC’s definition of, and rules regarding access to terminals generally and, specifically, an unbundled NID. (Tr. 04/19/01, p. 143) The underlying issue is the definition of a NID as a network demarcation point, per Qwest, as distinct from a network functional element with a protector and cross-connects, per AT&T. AT&T contends that Qwest is perhaps discriminating between NIDs and other similar or identical terminals in Qwest’s plant merely because of the character of the wire that is on the customer’s premises side of the particular terminal. AT&T’s concern is that access to all the terminals is consistent. Similar issue to SB-21. (Tr. 04/19/01, p. 143) AT&T’s understanding of Qwest’s position is that if Qwest owns the inside wiring, then the NID is equal to the demarcation point. AT&T’s position is that the NID is a device that includes a cross-connect and protection. (Tr. 04/19/01, p. 145) The parties agree to address access issues of terminals at different points in or on the customer premises. There was mutual concern over getting bogged down in definitions of NID rather than focusing on what functions the devices perform and access. Hold for considering means of eliminating the issue at the conclusion of the discussion of sub-loop. (Tr. 04/19/01, p. 147) | Impasse |

## SUB-LOOP

| Issue ID# | SGAT §  | Description of Issue and Resolution   | Status  |
|-----------|---|---|---------|
| SB-17     | 9.3.5.1.1<br>9.3.5.2.1<br>9.3.5.4.4<br>9.3.6.1<br>9.3.8.5<br>9.3.8.10.2<br>9.3.8.10.3<br>9.3.8.10.4 | Whether CLECs must submit a service order, typically an LSR to order sub-loops. Qwest believes that an LSR should be issued each and every time a CLEC is accessing part of Qwest's network in a sub-loop unbundling context. (Tr. 04/19/01) The LSR would carry the identification of the typical MTE intrabuilding cable, carry the fact that the CLEC has accessed an intrabuilding cable, appropriate billing rates for that state, and trigger the billing process. (Tr. 04/19/01, p. 150) A circuit I.D. would be inventoried in Qwest's OSS systems which would enable the record to be pulled up for that circuit in the event of a trouble call. Qwest could access the circuit record and issue a repair ticket against that circuit. (Tr. 04/13/01, p. 150) AT&T argues that LSR on each sub-loop is "overkill." AT&T proposes to notify Qwest on a monthly (or less frequent) basis on how many pairs of circuits that have Qwest inside wire have been used in each building each month. (Tr. 04/19/01, p. 151) AT&T's objectives are to minimize associated cost and expense to the CLEC, and to eliminate a "gating factor" that could arise as a consequence of requiring a CLEC to submit substantial numbers of LSRs. AT&T anticipates the cost of using the Qwest wiring to be very low per month and does not want an expensive process. The AT&T proposal is <i>Exhibit 3-ATT-4</i> , SGAT §§ 9.3.8.10.2 and 9.3.8.10.3. (Tr. 04/19/01, p. 152) AT&T proposed to provide information to Qwest to meet basic termination-related inventory requirements and expedite information transfer process. Facilitator suggested an e-mail process whereby a CLEC would notify Qwest of an intent to use wires on a given date. (Tr. 04/19/01, p. 157) Qwest contends that this will not eliminate the need to create an LSR in its centers in order to get the information into the database. (Tr. 04/19/01, p. 157) AT&T is concerned that the information necessary to perform the LSR process as proposed by Qwest is impractical without adequate labeling and stenciling of the field plant. (Tr. 04/19/01, p. 162) CFA issue removed from SB-17, but impasse remains subject to consideration of proposal. | Impasse |
| SB-18     | 9.3.3.5<br>9.3.5.4.4<br>9.3.8.3<br>9.3.8.4  | Whether an inventory of CLEC facilities must be created before CLECs may obtain access to sub-loop elements in an "MTE terminal." AT&T emphasis is on identification (stenciling) of Qwest facilities. (Tr. 04/19/01, p. 202) AT&T's position is that it will inventory the terminal block and network interface and provide that information to Qwest. AT&T feels it is the responsibility of Qwest to inventory its own equipment and to stencil or clearly label the equipment. AT&T does not feel it should be charged for the inventorying or labeling. (Tr. 04/19/01, pp. 200-201) AT&T proposes exchange of information for ordering sub-loop element, with 10 days to determine ownership, and 10 days for identification. (Tr. 04/19/01, p. 204) If no response is received, the CLEC could access the inside wire to take necessary action. Linked to SB-19. Impasse subject to review of AT&T proposal, to be provided.  | Impasse |



## SUB-LOOP

| Issue ID# | SGAT §   | Description of Issue and Resolution  | Status  |
|-----------|--|--|---|
| SB-19     | 9.3.5.4.1<br>9.3.8.2<br>9.3.8.4<br>9.3.8.10.3  | Whether Qwest must determine if it owns the intrabuilding cable (or inside wire) before a CLEC may access sub-loop elements; if so, whether Qwest's processes for determining such ownership are appropriate. AT&T wants the option to contact the property owner to determine ownership. (Tr. 04/19/01, p. 203) If the owner fails to claim ownership "disclaims ownership," then AT&T would go to Qwest which would have 10 days to make the determination. (Tr. 04/19/01, pp. 203-204) Second aspect is that the inquiry made by the CLEC should be at no charge to the CLEC. (Tr. 04/19/01, p. 204) AT&T, after identifying who owns or controls the on-premise wiring, Qwest would then have 10 days to stencil facilities. (Tr. 04/19/02, p. 205) Impasse linked to SB-18. Also subject to review of AT&T proposal, to be provided.  | Impasse   |
| SB-20     | 9.3.3.5<br>9.3.3.7.1<br>9.3.3.7.2<br>9.3.5.4.1<br>9.3.5.5.2.1<br>9.3.8.2<br>9.3.8.3<br>SGAT<br>Exhibit C | Assuming Qwest's processes (including Qwest's determination of ownership, inventory of terminations, FCP, and collocation processes) are appropriate, whether the intervals provided by Qwest for such processes are appropriate. Linked to SB-18. Qwest proposes 10 days to identify ownership and then 10 days from that point to do the stenciling and also tagging or identifying cable pairs used by Qwest. (Tr. 04/19/01, p. 205) AT&T also wants language stating that if Qwest does not perform with the timelines, the CLEC could access the inside wire. (Tr. 04/19/01, p. 206) AT&T: Qwest would only bill CLECs from the time the wire is identified as being Qwest's. No retroactive billing. (Tr. 04/19/01, p. 207) Also subject to review of AT&T proposal, to be provided. Items SB-18, SB-19, and SB-20 contain overlapping issues.   | Impasse   |
| SB-21     | 9.3.5.4.5<br>9.3.7.1<br>9.3.8.5<br>9.3.8.6<br>9.3.8.8  | Is CLEC entitled to the option of having Qwest or CLEC run the jumpers necessary to access sub-loops in MTE terminals regardless of the type of sub-loop ordered, or is SGAT § 9.3.5.4.5 the proper approach (for intrabuilding cable, CLEC runs the jumpers, and for other sub-loops, Qwest runs the jumpers). AT&T's business plan is to run jumpers in virtually every situation, but wants to preserve the option of requiring Qwest to run the jumpers. (Tr. 04/19/01, p. 210) By contrast, Qwest SGAT language has the CLEC always running the jumpers. (Tr. 04/19/01, pp. 210-214) AT&T also has concern regarding removal of its cable and wire from line protection. Qwest proposed the use of bridge clips in this situation. (Tr. 04/19/01, p. 212) Qwest has a concern about how the information would get passed to Qwest in the event that Qwest work would need to be performed. (Tr. 04/19/01, p. 211) AT&T and Qwest to work off-line to determine if impasse issues are in fact, at impasse. Assessment due May 5, 2000. | Impasse   |
| SB-22     | 9.3.1.2<br>9.3.1.7<br>9.3.2.2<br>9.2.2.3.1<br>9.3.4.2<br>9.3.4.3,<br>9.7.1<br>9.7.2.1.5<br>9.7.2.19      | Whether Qwest must provide access to copper feeder and fiber sub-loops. Issue of how much internal process time for provisioning of copper feeder if little demand evident. (Tr. 04/19/01, p. 223) Qwest believes there will be very little if any demand for copper feeder. (Tr. 04/19/01, p. 222) Qwest has not developed a standard sub-loop element for copper feeder; however, upon request, Qwest will provide information to the CLEC on how Qwest provisions, and provide the copper feeder sub-loop. (Tr. 04/19/01, pp. 222-223) If sufficient demand arises, Qwest will provide copper feeder as a standard product. (Tr. 04/21/01, p. 223) Copper feeders, specifically, as well as any other additional sub-loop, would be offered to CLECs pursuant to the SRP. Similar to SB-24. A second issue in SB-22 involved DF and is resolved. (Tr. 04/19/01, p. 224) Also, SRP to be discussed in GT&C Workshop  | Closed/<br>SRP<br>Deferred<br>to GT&C<br>Workshop |

## SUB-LOOP

| Issue ID# | SGAT §  | Description of Issue and Resolution   | Status  |
|-----------|---|---|---|
| SB-23     | 9.2.2.3.1<br>9.3.1.1<br>9.3.1.2<br>9.3.2.1<br>9.3.5<br>9.3.6<br>9.7.2.4 | Whether the rate for loop facilities on a campus, including cabling between buildings, should be the same as distribution sub-loop or priced as a separate sub-loop element. Qwest considers “intrabuilding” cable and distribution to encompass wiring between buildings on a campus, as distinct from on-premise wiring. AT&T believes that both wire on a premise between buildings and within a building is one element, on-premise wiring, and should be priced accordingly. (Tr. 04/20/01, p. 114) The definition of intrabuilding wiring impacts the way sub-loops can be divided as well. AT&T summarizes the issue as what constitutes on-premise wiring, what it is called, and how it should be priced. (Tr. 04/20/01, p. 114)   | Impasse   |
| SB-24     | 9.3.1.2<br>9.3.2<br>9.3.1.1<br>9.3.1.7                                  | Whether it is necessary or appropriate for Qwest to require a separate process (SRP-see Exhibit F of the SGAT) for requesting additional sub-loop elements if demand for a specific product were virtually non-existent. Understood is that Qwest would leverage the benefits of any special request or BFR process, so that subsequent similar requests could be handled expeditiously based upon a process that would have been outlined and in place. Qwest’s proposed language is acceptable to AT&T which is understood to be that copper feeder specifically, as well as any other additional sub-loop, would be offered to CLECs pursuant to the special request process. (Tr. 04/20/01, p. 106)   | Closed  |
| SB-25     | None  | Yipes desires access to Qwest fiber splice box, and/or Qwest accesses the splice box on Yipes’ behalf, for the purpose of splicing Yipes’ fiber sub-loop to Qwest’s fiber sub-loop. (Tr. 04/20/01, p. 3) Yipes is willing to pay time and materials charges for Qwest to act in its behalf. (Tr. 04/20/01, p. 4) Yipes later requested a clarification of costs over and above time and materials. Qwest stated that there was a small markup over and above time and materials. Yipes wishes this amount to be further defined. (Tr. 04/20/01, p. 25) Qwest had a small number of conditions associated with the splicing that were written out for review of parties. (Tr. 04/20/01, p. 7) Also, a discussion of whether a CLEC could order DF sub-loop from a Qwest wire center or any point in the loop plant to any other point. (Tr. 04/20/01, p. 16) <i>Exhibit 3-Qwest-31</i> . | Closed  |
| SB-26     | 9.19<br>9.1.2.1   | Yipes access to Qwest splice box-or Qwest’s access to the splice box on Yipes’ behalf-to splice Yipes and Qwest fibers, or place a splice, or Qwest and Yipes Fiber Distribution Panel. Yipes also desires that this be offered as a standard product (obviating a need for ICB or BFR process). (Tr. 04/20/01, pp. 4-5) Yipes would like to order placement out of an FDP at a location where one does not currently exist. (Tr. 04/20/01, p. 5) Qwest to place FDP for UDF-L and EUDF-L, pursuant to terms stipulated in § 9.19 of the SGAT.  | Impasse   |
| SB-27     | 9.7.3.5   | Yipes desires a Qwest reservation process established for an available sub-loop while an FCP is being created and established. (Tr. 04/20/01, p. 5) Qwest will not process the order until the FCP is established to delineate a demarcation point. CLECs want DF or copper availability to be “secured” while FCP is being established, after going through the time and expense of building the FCP. (Tr. 04/20/01, p. 5) A reservation process currently exists for DF in the sub-loop. See SGAT § 9.7.3.5. Yipes wants this language broadened to apply to all sub-loops. (Tr. 04/20/01, p. 5)  | Closed for DF.<br>Impasse for facilities other than DF. |

## SUB-LOOP

| Issue ID# | SGAT §                      | Description of Issue and Resolution   | Status   |
|-----------|-----------------------------|---|--|
| SB-28     | 9.7.1<br>9.7.2.4            | Qwest's policy relating to stranded plant when provisioning UDF/sub-loop plant; and circumstances relating to Qwest potential denial of request for UDF P/Sub-loop plant based on stranded fiber. (Tr. 04/20/01, p. 24) If Qwest should deny a DF availability or sub-loop availability based upon stranded plant, Yipes would like to request that Qwest place a fiber distribution plant panel in order to unstrand that plant. (Tr. 04/20/01, p. 22) Yipes considers SB-28 to be different from the previous discussion of a fiber distribution panel in SB-26 that does not address stranded plant. (Tr. 04/20/01, p. 24) Qwest will not take an analysis of stranded investment into account when providing DF sub-loop to a CLEC. (Tr. 04/20/01, p. 58)   | <b>Closed, Defer cost for recovery of stranded plant to Cost Docket.</b> |
| SB-29     | 9.7.2.4                     | Disposition of Qwest or CLEC concerning stranded plant resulting from purchase of stranded plant by purchase of sub-loop. (Tr. 04/20/01, p. 58) Options could include sub-lease, future reservation by the purchasing CLEC waiver of utilization requirements, Qwest utilization. (Tr. 04/20/01, p. 58)   | <b>Deferred to GT&amp;C Workshop</b>                                     |
| SB-30     | 9.7.1<br>9.7.2.3<br>9.7.2.4 | DF designated in Qwest's systems as interoffice facility and built as IOF is not available to CLECs for sub-loop applications. AT&T contends designation takes fiber out of pool of available fiber on a first-come, first-served basis. Qwest contends this would fragment network and undermine planning process. Qwest to clarify language as to DF distinguishing IOF. See DF-20 and <i>Exhibit 3-Qwest-34</i> . Qwest will not agree to make sections of IOF available at this time. (Tr. 04/20/01, p. 65) Qwest will not extend its sub-loop obligations to IOF inventoried with the expectation of being used for interoffice facilities. (Tr. 04/20/01, pp. 65-66) Qwest to add specific language to SGAT § 9.7.1 identifying that routes designated as interoffice are not available for CLECs to use as loops or sub-loops. (Tr. 04/20/01, p. 72) | <b>Impasse</b>   |

## LINE SHARING

| <b>Issue ID#</b> | <b>SGAT §</b>                                    | <b>Description of Issue and Resolution</b>   | <b>Status</b>  |
|------------------|--|--|--|
| LS-1b            | 9.4.2.1.7  | Forecasting: Issue 1 is confidentiality and Issue 2 is use of forecast. Issue 1 is deferred to GT&C Workshop. WorldCom has strong issues about the confidentiality. WorldCom has proposed some language about who could and who could not see the forecast; also about how the forecasts are used and what feedback will be provided to the CLECs. (Tr. 12/14/00, pp. 120-121) Note: Transcript attributes this to 1d, but issues discussed are 1b.) Parties agree that confidentiality is a broader issue and belongs in GT&C Workshop. (Tr. 12/13/00, p. 233) Issue 2 is deferred to the UNE Forecasting Workshop. (Tr. 12/14/00, p. 152) Qwest agreed to make the forecast confidential and make the definition whatever the parties work out. (Tr. 12/13/00, p. 230) | <b>Defer to GT&amp;C Workshop &amp; Forecasting Workshop</b> |
| LS-4             | 9.4.2.3.2  | ITPs and TIE cables. Combined with LS-12. (Tr. 12/14/00, p. 165) Resolved.   | <b>Closed</b>  |
| LS-5a            | SGAT Exhibit A                                   | Whether the rates and rate elements for line-sharing are appropriate. (Tr. 11/02/00, p. 23) Qwest believes that the interim rates that have been established in the Colorado SGAT and in the interim line-sharing agreements are sufficient to meet Qwest's requirement to have a legally binding obligation to provide line-sharing. Questions re wholesale rates and megabit rates paid by Qwest.com. (Tr. 11/02/00, p. 24) A number of questions regarding Part 64 cost allocations and specific allocations to Qwest.com. (Tr. 11/02/00, p. 26) Deferred to SGAT Cost Docket (99A-577T).   | <b>Defer to Cost Docket</b>                                  |
| LS-5b            | 9.4.2.1.5<br>9.4.3.2.1                           | Bulk deloading. Referred to DL-20 and DL-21. This was the same issue discussed in both. Addressed in the Affidavit of Jean Liston. (Tr. 12/14/00, p. 119)  | <b>Closed</b>  |
| LS-6             | 9.4.2.2.2<br>9.2.3.3.1<br>9.4.4.1.6<br>9.4.4.3.1 | TIE cable reclassification and charges. Why is the TIE cable reclassification necessary and is it appropriate to charge CLECs for the TIE cable redesignation, for redoing the stenciling on the ICDF. (Tr. 11/01/00, p. 242) Refer to Stewart Supplemental Testimony of December 5, 2000, for additional information. AT&T considers the only remaining issue to be the associated costs and why CLECs should pay for these charges. (Tr. 12/14/00, p. 153) Defer rate/charges questions to Cost Docket (99A-577T)  | <b>Defer to Cost Docket</b>                                  |
| LS-7             | SGAT Exhibit C                                   | The issue is the interval for providing line sharing. CLECs want one-day as contrasted to current five-day interval. Qwest advises that July 1, 2001, it will begin offering three-day interval for provisioning line sharing which is coupled to a new system release. Qwest proposes that all standard intervals be relocated from the body of the SGAT into a separate SGAT exhibit-Exhibit C. (Tr. 11/02/00, pp. 33-34)  | <b>Impasse</b>   |
| LS-8             | 9.4.2.1.5  | Qwest must provide loop conditioning for CLECs. In SGAT § 9.4.2.1.5, Qwest makes a specific commitment to develop conditioning on shared loops. (Tr. 11/01/00, p. 200) No charge to the CLEC subject to the rates, terms, and conditions for loop conditioning contained in Exhibit A. Covad, Rhythms, Pac-West, and XO agree with Qwest. (Tr. 12/14/00, p. 119) Resolved.   | <b>Closed</b>  |

## LINE SHARING

| Issue ID# | SGAT §                 | Description of Issue and Resolution  | Status                    |
|-----------|------------------------|--|---------------------------|
| LS-10a    | 9.4.2.3.1              | Splitter on MDF 10K lines limit. CLECs believe there are efficiencies gained by having the splitter on the MDF or the IDF. (Tr. 12/14/00, p. 168) Covad believes that the option should be extended to all CLECs since it has been extended at least on one occasion. Covad wants the option to be able to use the frame mounted splitter, which eliminates the need to have a relay rack. Further, Covad wants the option extended to offices under 10,000 lines. (Tr. 12/14/00, p. 171) Qwest agreed to allow this after utilizing existing splitter bays. (Tr. 12/14/00, p. 178) Qwest did not concede that it had allowed any CLEC to use the frame mounted splitter. The central office in question is the Dry Creek central office. (Tr. 12/12/00, p. 182)   | Impasse                   |
| LS-10b    | 9.4.2.3.2              | ITPs and TIE cables. Dropped and combined with LS-12. (Tr. 12/14/00, p. 167) See <i>Exhibit 3-Qwest-23</i> .   | Closed                    |
| LS-12     | 9.4.2.1.1<br>9.4.2.1.2 | Qwest's purchasing of splitters on behalf of CLECs. AT&T points out that issue LS-2 actually says "POT splitter requirements per FCC" is actually LS-13. (Tr. 12/14/00, p. 115) CLECs want Qwest obligated to own a splitter at their request. (Tr. 12/14/00, p. 104) Change SGAT § 9.4.2.1.2 to clarify "purchase and install" and clarify reimbursement. Qwest agreed to add specific language requested by WorldCom. (Tr. 12/14/00, p. 104) Qwest will identify the three scenarios around purchase and install. (Tr. 12/14/00, p. 111)   | Closed                    |
| LS-13     | 9.4.2.3                | Bulk or shelf at a time, access to splitter capacity. The issue of Qwest doing one-at-a-time splitters, leaving one-at-a-time splitters in place for UNE-P has been deferred to Loop Workshop. (Tr. 12/14/00, p. 112) AT&T has an issue that the full capacity of the loop is not available unless the splitter is available to the CLECs when they want them. (Tr. 12/14/00, p. 112)  | Deferred to Loop Workshop |
| LS-14     | 9.4.2.1.1<br>9.4.2.1.3 | Should Qwest own splitters. AT&T points out that LS-14 is actually a narrow portion of LS-12. LS-12 is POT splitter requirement per FCC, while LS-14 is a narrower subset of whether Qwest should own the splitters. (Tr. 12/14/00, p. 115) Qwest recommends combining with LS-13 where it believes AT&T will be expanding on the issue. (Tr. 12/14/00, p. 113) Defer to line splitting discussion in the Loop Workshop.   | Defer to Loop Workshop    |
| LS-15     | None                   | Testing of completed order installation. Qwest must conduct necessary tests to ensure that both the voice and data services are properly wired in the central office. (Tr. 12/14/00, p. 203) Data test for DSL installation. Also at FCC. Specifically, testing to see if the cross-connects were done properly to be able to provide shared services. CLECs want testing and confirming done on both voice and data services. CLECs want the same type of test done as Qwest performs for megabit. (Tr. 04/14/01, p. 205) Qwest indicates that this test is in two working items before the FCC. Covad and Qwest jointly are performing data testing in another state. (Tr. 04/14/01, p. 208) Covad would like to see a similar test done in Colorado. (Tr. 04/14/01, p. 209) Covad's issue is that the original megabit service used CAP 4 technology, which is different than the technology used by most of the CLECs, which is DMT. CPE and routers used for one type will not work with the other. Covad wants to know if the DMT is being tested as well as the CAP 4. (Tr. 04/04/01, p. 209) Covad wants continuity test only. (Tr. 04/14/00, p. 214) Also, there was a question of who will pay for different test sets required for different technologies and whether CLECs will pay Qwest to do the tests. Covad is unwilling to pay. Consider that this should be included in the original cost. (Tr. 04/14/01, p. 217) Qwest will respond to FCC direction, but Covad is not sure that this will solve the dispute. (Tr. 04/14/01, p. 220) | Impasse                   |

## LINE SHARING

| Issue ID#        | SGAT §               | Description of Issue and Resolution  | Status  |
|------------------|----------------------|--|---|
| LS-16            | None                 | Splitter installation–quality control check. Covad is comfortable with the process and the check. Qwest commits to e-mail everyone on the Colorado distribution list informing them when the testing process is complete. Scheduled completion date is 12-31-00. (Tr. 04/14/01, p. 207) Closed, based on when notification check is complete.  | <b>Closed</b>                                       |
| LS-17            | None                 | Performance Metrics should be changed to include Line Sharing disaggregation. Issues raised by Rhythms and Covad in previous workshop. (Tr. 12/14/00, p. 221) Requested PID change: Line sharing to be disaggregated and tracked as diagnostic. Includes OP-3, OP-4, OP-5, OP-6, OP-15, MR-3, MR-4, MR-6, MR-7, and MR-8. Qwest modified ROC OSS Test to include line sharing in metrics of Average Service Interval (OP-4) and Percentage of Commitments Met (OP-3). Qwest will continue to develop matrices. An additional submetric is being developed to track Percentage of Line Share Orders Met. These were being disaggregated. Tracking time begins when completed order is received. (Tr. 12/14/00, p. 222) Covad believes the issue will remain open because there may not be an SGAT Section that speaks to it. (Tr. 12/14/00, p. 242) Qwest points out that closing the workshop issue does not mean that CLECs agree that performance is and will be ideal. The performance issue itself will always remain “open”. (Tr. 12/14/00, p. 243) Considerable debate back and forth over the definition of “close”, when and whether a “closed” issue can be revisited and the possible need for a separate category of “closed”. (Tr. 12/14/00, p. 243-255) | <b>Closed</b>                                       |
| LS-18<br>(PS-19) | 9.4.1.1<br>9,2,2,3,1 | Whether the <i>Line Sharing Reconsideration Order</i> mandates line sharing over fiber and its effect on packet switching. If Qwest deploys remote DSLAM, CLECs want access to functionality through cards or through unbundled packet switching. Covad needs the ability to have access to customers that are served in more distant parts of the Qwest network over systems that are fiber fed for purposes of providing line sharing. Qwest is unsure as to what this issue actually means. (Tr. 04/19/01, p. 11) Qwest feels it must make DF available from a remote terminal to the central office as a sub-loop element to allow the DLEC to lease the fiber to send its data back. (Tr. 04/19/01, p. 13)  | <b>Impasse</b>                                      |
| LS-19            | None                 | Inaccurate data received from Qwest on positive FOCs, resulting in either additional FOCs or multiple jeopardies per LSR.  | <b>Closed. Revisit in other forums. See Loop-24</b> |

## PACKET SWITCHING

| Issue ID# | SGAT §     | Description of Issue and Resolution  | Status  |
|-----------|------------|--|---------|
| PS-1      | 9.20.2.1   | Does Qwest have an obligation to provide unbundled Packet Switching (PS). Qwest agrees it will unbundle PS in Colorado and has provided in its SGAT language obligating Qwest to provide PS if four conditions are met. (Tr. 12/12/00, p. 15) Qwest is prepared to offer unbundled PS on 12/12/00, although pricing was not complete and would be done on a case-by-case basis. (Tr. 12/12/00, p. 16) Rate elements are part of SGAT. (Tr. 12/14/00, p. 17)  | Closed  |
| PS-2      | 9.20.2.1.2 | The original issue is that Qwest's position is that if a copper loop is available and it is suitable to provide the xDSL service that a CLEC would like to provide, then Qwest does not have an obligation to unbundle PS. (Tr. 12/12/00, p. 38) Issue later restated by AT&T as: whether Qwest has an obligation to provide unbundled PS if the available spare copper loops were longer than the copper loops Qwest or another CLEC may be utilizing. (Tr. 12/12/00, p. 43) Specific subject of impasse is wording as raised by AT&T. AT&T does not feel the section wording adequately reflects what AT&T believes to be the proper interpretation of what copper loop suitability should be. (Tr. 12/12/00, p. 41) AT&T also believes PS-2 to be part of the impasse on PS-3. (Tr. 12/12/00, p. 42) AT&T asked whether Qwest should revise SGAT § 9.20.2.1.2 to include the word "adequately" before "supporting" on line 1 and the addition of the word "insufficient." So that it reads "There are insufficient spare copper loops available capable of adequately supporting the xDSL services the requesting carriers seek to offer." AT&T and Covad recommended this change. Qwest opposes. Qwest opposes the change because it believes it is unnecessary. Qwest will not accept "insufficient" because it will not accept what it considers ambiguity inside the SGAT. (Tr. 12/12/00, p. 49) The word "adequately" is also believed by Qwest to introduce ambiguity. (Tr. 12/12/00, p. 52) Qwest wants to track the FCC rule verbatim. (Tr. 12/12/00, p. 51) Covad takes issue with "capable" and "adequately" being synonymous. (Tr. 12/12/00, p. 52) Impasse is concerning added language AT&T suggested. (Tr. 12/14/00, p. 54) | Impasse |
| PS-3      | 9.20.2.1.3 | Issue raised jointly by Covad and AT&T. (Tr. 12/12/00, p. 25) AT&T believes some items could improve the section. (Tr. 12/12/00, p. 25) AT&T improvement would be to focus on concept of Qwest not permitting CLECs to collocate with their own DSLAM in remote terminals or that CLECs are "unable" to do so. (Tr. 12/12/00, p. 25) AT&T would further like to add "unable for technical or economic reasons." Qwest will not agree to these changes feeling the FCC order and the section is clear and explicit. Qwest is unwilling to add anything else. (Tr. 12/12/00, p. 26) AT&T feels there is a clear difference in the FCC language and the Qwest language. AT&T points to the distinction in Qwest's willingness to allow the DSLAM and the ability of a CLEC not to because of constraints. (Tr. 12/12/00, p. 26) See also Issues PS-6 and PS-14.   | Impasse |

## PACKET SWITCHING

| Issue ID# | SGAT §            | Description of Issue and Resolution  | Status         |
|-----------|-------------------|--|----------------|
| PS-4      | 9.20.2.1.3        | Whether Qwest should allow CLECs to place line cards in Qwest remote terminal equipment (e.g., Plug & Play (P&P) over Qwest's remotely deployed CISCO 6100 DSLAM). Qwest clarifies that the CISCO 6100 is what it anticipates using in its DSLAM rollout, but is not yet deployed. (Tr. 12/12/00, p. 58) Qwest's position is not that there are technical difficulties with making P&P work, but that it is not obligated to provide P&P, and the issue is currently before the FCC. (Tr. 12/12/00, p. 118) Covad believes there are products available that will allow for P&P. (Tr. 12/12/00, p. 59) Covad does not have specific plans how the P&P would work under the PS-4 scenario. (Tr. 12/12/00, p. 62)  | <b>Impasse</b> |
| PS-5      | 9.20.2.1          | Is Qwest definition of Packet Switching consistent with the FCC? AT&T Wording Issues. Qwest believes the AT&T reference on this issue is actually to the FCC definition in the UNE Remand Order at ¶ 304. The FCC definition of packet switching is a function of routing individual data units or packets based on the address or other routing information contained in the packets. The packets contain network elements such as the necessary electronics, routers, and DSLAMs. (Tr. 12/12/00, p. 7) AT&T wants the wording at least consistent with FCC. (Tr. 12/12/00, p. 9) AT&T okayed the proposed wording as detailed by Qwest. (Tr. 12/12/00, pp. 9-13) Qwest added "and routing" to the end of line 1 following "delivering." Qwest revised line 4 to read as follows: DSLAM functionality, with the routing and addressing function of the packet switches necessary to generate the virtual channel. | <b>Closed</b>  |
| PS-6      | 9.21.2.1          | Consistency, with FCC rule 51.319. Qwest will not go beyond the FCC requirements. PS-6 was subsumed into PS-3. (Tr. 12/12/00, p. 36)   | <b>Closed</b>  |
| PS-7      | 9.20.2.2-9.20.2.5 | Must Qwest modify these provisions to provide CLEC with the "broadest possible access"? AT&T wants confirmation that the UNE packet switching will be available at any technically feasible access point. (Tr. 12/12/00, p. 65) Qwest provided new language for SGAT § 9.20.2.2 and accepted AT&T language recommendations. (Tr. 12/12/00, p. 69) New wording accepted for § 9.20.2.2. (Tr. 12/12/00, p. 84)   | <b>Closed</b>  |
| PS-8      | 9.20.2.6          | Must Qwest demonstrate what makes an option available or unavailable? Qwest understood AT&T was questioning what SGAT § 9.20.2.6 was intending to address. Qwest's response is that CLECs can provision their specified options for this PS UNE consistent with its requirements as long as technically feasible. (Tr. 12/12/00, p. 85) No modifications required.   | <b>Closed</b>  |
| PS-9      | 9.20.2.7          | What are Qwest's PS Management Systems and why does this section exclude CLEC access to them? What PS Management Systems or Network Management Systems has Qwest deployed? CISCO 6100 DSLAM. (Tr. 12/12/00, p. 86) Qwest's response to the issue of access is that the system only allows access by one carrier. This limitation is on the management system, not on what can be accomplished for a CLEC. Qwest is pursuing alternative means of provisioning access for CLEC such as web access. (Tr. 12/12/00, p. 87) It is not possible to have access because of vendor capacity. Qwest to add the language "unless such functionality is available" to SGAT § 9.20.2.7 in the event that the functionality becomes available at a later date. (Tr. 12/12/00, p. 91)   | <b>Closed</b>  |



## PACKET SWITCHING

| Issue ID# | SGAT §               | Description of Issue and Resolution   | Status                              |
|-----------|----------------------|---|-------------------------------------|
| PS-10     | 9.20.3               | Do the three separate rate elements also constitute three separate UNEs? Qwest provided clarification. (Tr. 12/12/00, p. 95) One UNE with subparts – language modifications to SGAT §§ 9.20.3.1 and 9.20.3.1.1 PS-12 and PS-10 are closely related. CLECs have no issues after explanation. (Tr. 12/12/00, p. 97)   | <b>Closed</b>                       |
| PS-11     | 9.20.3.1             | Why both an NRC and an RC? Why are rates based on bit rate? At this point, Qwest was identifying and anticipates that the net result of the cost studies will identify costs that are present for non-recurring and costs that are appropriate for recurring. (Tr. 12/12/00, p. 104) To be resolved in Cost Docket.   | <b>Closed. Defer to Cost Docket</b> |
| PS-12     | 9.20.3.2             | Does this provision mean Qwest will provide PS as a part of a combination? In this element, Qwest is identifying that from the remote DSLAM to the end user premise, there would need to be a distribution type facility, and that could be a dedicated loop, or could be a shared loop. It's broken out as a separate rate element because, in fact, CLECs may want to provide their own distribution loop. But there needs to be the capability to connect the copper loop on the customer premise into the DSLAM. This rate element is consistent with elements loop and sub-loop. (Tr. 12/12/00, p. 97) Combine with PS-10. PS-12 and PS-10 are closely related. Qwest to add language that says if CLECs furnish their own distribution loop, the rate element will not apply. (Tr. 12/12/00, p. 98) Issue closed. | <b>Closed</b>                       |
| PS-13     | 9.20.4.1             | Is “remote Qwest premises” a defined term? Qwest was attempting to identify that it is probably not a Qwest central office in question. (Tr. 12/12/00, p. 105) Language change to § 9.20.4.1 as defined in Collocation section will change from remote Qwest premise to Qwest remote premise. (Tr. 12/12/00, p. 106)  | <b>Closed</b>                       |
| PS-14     | 9.20.4.1             | How does a CLEC satisfy this provision for being denied access? Confusion on collocation forecasting process but language modification to SGAT § 9.20.4.1. AT&T points out that collocation forecast is not a defined term in the SGAT and there is a lot of debate as to what should be in a collocation forecast. (Tr. 12/12/00, pp. 110-111) Qwest suggested the language, "Prior to placing the order for unbundled PS, CLEC must have issued Qwest collocation application or collocation forecast to place a DSLAM in a remote Qwest premises containing a Qwest DSLAM, and Qwest shall have denied CLEC such access in writing." (Tr. 12/12/00, pp. 114-115) This issue basically moved to PS-3. (Tr. 12/12/00, p. 196)  | <b>Closed</b>                       |
| PS-15     | 9.20.4.2<br>9.20.4.3 | How does a CLEC satisfy this provision for continuity? AT&T wants clarification of its comments and how CLECs can satisfy the requirements. (Tr. 12/12/00, p. 144) Qwest’s meaning in SGAT § 9.20.4.2 is that before you actually hook up the end user to the DSLAM, you need to have the connectivity on the opposite end from the packet switch to your network established, so that, basically, the infrastructure is in place to be able to actually install the customer. (Tr. 12/12/00, p. 144) Language modifications to SGAT §§ 9.20.4.2 and 9.20.4.3.  | <b>Closed</b>                       |
| PS-16     | 9.20.5               | Must this provision be modified to provide for joint maintenance and repair? May need to put language in § 12 for joint testing/repair, may need to discuss in GT&C Workshop. Qwest to add testing and maintenance related wording at suggestion of AT&T.   | <b>Closed</b>                       |

## PACKET SWITCHING

| Issue ID#      | SGAT §               | Description of Issue and Resolution   | Status                            |
|----------------|----------------------|---|-----------------------------------|
| PS-17          | 9.20.5               | Maintenance and Repair. Closed, with understanding that § 12 will be revised after GT&C Workshop review. Qwest was unwilling to keep the issue open in this workshop feeling it had no relevance. (Tr. 12/12/00, p. 172) Review § 12 during GT&C Workshop.                                  | <b>Defer to GT&amp;C Workshop</b> |
| PS-18          | None                 | Why CLECs must provide forecasts on DSLAM build-out. AT&T issue. Difficult to “right-size” cabinets without knowing what CLECs are going to be doing in the future. Qwest pointed out the wording deliberately avoids requiring this for unbundled packet switching. (Tr. 12/12/00, p. 176) | <b>Closed</b>                     |
| PS –19 (LS-18) | 9.4.1.1<br>9.2.2.3.1 | Whether the <i>Line Sharing Reconsideration Order</i> mandates line sharing over fiber and its effect on PS. If Qwest deploys remote DSLAM, CLECs want access to functionality through cards or through unbundled PS. (PS-19 deferred to LS-18.)  | <b>Impasse/Deferred to LS-18</b>  |

## **APPENDIX B**

### **LIST OF COLORADO WORKSHOP IMPASSE ISSUES**

#### **CHECKLIST ITEM NO. 2 – EMERGING SERVICES**

##### **Access to Dark Fiber**

###### **Workshop Issues ID No. DF-15(1 & 2)**

Whether Qwest Corporation's affiliates, including its parent corporation, are required to comply with the unbundling obligations of §§ 251 and 252 of the Act. At issue is whether Qwest has an obligation to unbundle the dark fiber facilities owned by the companies affiliated with Qwest based on the premise, asserted by CLECs, that Qwest and its affiliates are "successors and assigns of U S WEST and are therefore ILECs as defined in the Act."

###### **Workshop Issue ID No. DF-15(3)**

Whether Qwest is obligated to unbundle dark fiber that it does not own in meet-point arrangements, and that is included in joint-build arrangements that Qwest enters into with third parties.

###### **Workshop Issue ID No. DF-16**

Whether Qwest's internal technical publications, documents, and standards are consistent with the SGAT, and whether they are required to be subject to the Co-Provider Industry Changes Management Process (CICMP).

###### **Workshop Issue ID No. DF-20**

At what points on Qwest's fiber facilities may CLECs access unbundled dark fiber?

###### **Workshop Issue ID No. DF-4(c)**

Whether it is appropriate for Qwest to apply the FCC's EEL restriction (a significant amount of local exchange traffic) to unbundled dark fiber.

##### **Access to Sub-Loops**

###### **Workshop Issue ID No. SB-16**

Whether the SGAT provisions for access to sub-loop elements, specifically unbundled Network Interface Devices (NIDs) at Multiple Tenant Environment (MTE) terminals, are consistent with the Act and FCC rules.

###### **Workshop Issue ID No. SB-17**

Whether CLECs should be required to submit local service requests (LSRs) to order sub-loops.

**Workshop Issue ID No. SB-18**

Whether an inventory of CLEC facilities must be created before CLECs may obtain access to sub-loop elements in an MTE terminal.

**Workshop Issue ID No. SB-19**

Whether Qwest must determine if it owns the intrabuilding cable (inside wire) before a CLEC may access sub-loop elements and whether Qwest's processes for determining such ownership are appropriate.

**Workshop Issue ID No. SB-20**

Assuming Qwest's processes (including Qwest's determination of ownership, inventory of terminations, FCP, and collocation process) are appropriate, whether the intervals provided by Qwest for such processes are appropriate.

**Workshop Issue ID No. SB-21**

Whether a CLEC is entitled to the option of having Qwest or the CLEC run the jumpers necessary to access sub-loops in MTE terminals regardless of the type of sub-loop ordered; or whether the approach contained in SGAT § 9.3.5.4.5 is appropriate (for intrabuilding cable the CLEC runs the jumpers, and for other sub-loops Qwest runs the jumpers).

**Workshop Issue ID No. SB-23**

Whether the rate for loop facilities on a campus, including cabling between buildings, should be the same as the rate for distribution sub-loop; or whether it should be priced as a separate subloop element.

**Workshop Issue ID No. SB-25**

Whether Yipes is entitled to access fiber sub-loops at any technically feasible point or whether such access can only occur at accessible terminals.

**Workshop Issue ID No. SB-27**

Whether Qwest is required to establish a reservation process for an available sub-loop (other than dark fiber) while a FCP is created and established.

**Workshop Issue ID No. SB-30**

Whether Qwest is required to make dark fiber, designated in Qwest's systems as interoffice facility (IDF) and built as IOF, available to CLECs for sub-loop applications.

## **Access to Line Sharing**

### **Workshop Issue ID No. LS-7**

Whether Qwest's five-day provisioning interval for line sharing is appropriate.

### **Workshop Issue ID No. LS-10A**

Whether the 10,000 access line limitation in SGAT § 9.4.2.3.1 is appropriate.

### **Workshop Issue ID No. LS-15**

Whether Qwest should be required to conduct a data continuity test as part of the line sharing provisioning process.

### **Workshop Issue ID No. LS-18**

Whether Qwest is obligated to provide line sharing over fiber fed loops.

## **Access to Packet Switching**

### **Workshop Issue ID No. PS-2**

Whether the existing SGAT language at § 9.20.2.1.2 (no spare copper loop availability) is proper and in compliance with the FCC's requirements.

### **Workshop Issue ID No. PS-5**

Whether the existing SGAT language at § 9.20.2.1.3 (CLEC not permitted to collocate its own DSLAM at remote Qwest DSLAM premises) is proper and in compliance with the FCC's requirements.

### **Workshop Issue ID No. PS-4**

Whether Qwest is required to allow CLECs to place line cards into Qwest's remote DSLAMs even if the four conditions for unbundling packet switching are not satisfied.

## **APPENDIX C**

### **DOCKET NO. 97I-198T Commission Staff Report – Volume III**

#### **LIST OF INTERVENORS**

| <b>Intervenor</b>                              | <b>Abbreviation</b> |
|--|---------------------|
| 1. @Link Network                               | @Link               |
| 2. AT&T Communications of the Mountain States  | AT&T                |
| 3. Colorado Office of Consumer Counsel         | OCC                 |
| 4. Covad Communications Company                | Covad               |
| 5. ICG Telecom Group, Inc.                     | ICG                 |
| 6. JATO Communications Corp.                   | JATO                |
| 7. MCI WorldCom, Inc.                          | WorldCom            |
| 8. McLeodUSA Telecommunications Services, Inc. | McleodUSA           |
| 9. New Edge Networks                           | New Edge            |
| 10. Pac-West Telecomm, Inc.                    | Pac-West            |
| 11. Rhythms Links, Inc.                        | Rhythms             |
| 12. South Dakota PUC                           |                     |
| 13. Sprint Communications Company, L.P.        | Sprint              |
| 14. Tess Communications                        | Tess                |
| 15. XO Long Distance Services, Inc.            | XO                  |
| 16. Yipes Transmission, Inc.                   | Yipes               |

## APPENDIX D

### DOCKET NO. 97I-198T Commission Staff Report – Volume III

#### LIST OF ORDER AND DECISION REFERENCES

| <u>Order or Decision</u>  | <u>Abbreviation</u>                        |
|---|--|
| <i>Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, codified at 47 U.S.C. §§ 151 et. seq.</i>   | (The Act)                                  |
| <i>In the Matter of SBC Communications Inc., Southwestern Bell Telephone Company and Southwestern Bell Communications Services, Inc., d/b/a Southwestern Bell Long Distance Pursuant to § 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Texas, Memorandum Opinion and Order, CC Docket No. 00-65, FCC 00-238, (rel. June 30, 2000)</i>  | (SBC Texas Order)                          |
| <i>In the Matter of Application of Bell Atlantic New York for Authorization Under § 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of New York, Memorandum Opinion and Order, CC Docket No. 99-295, FCC 99-404 (rel. Dec. 22, 1999).</i>  | (Bell Atlantic New York Order)             |
| <i>In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers, First Report and Order, CC Docket No. 96-98, CC Docket No. 95-185, FCC 96-325, rel. Aug. 8, 1996).</i>   | (Local Competition First Report and Order) |
| <i>In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability, First Report and Order and Further Notice of Proposed Rulemaking, FCC 99-48, CC Docket No. 98-147.</i>   | (First Advanced Services Order)            |
| <i>In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, CC Docket No. 96-98, FCC 99-238 (rel. Nov. 5, 1999).</i>   | (UNE Remand Order)                         |
| <i>In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, FCC 99-355, CC Docket Nos. 98-147 and 96-98 (Released Dec. 9, 1999).</i>  | (Line Sharing Order)                       |
| <i>In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Third Report and Order in Reconsideration, Fourth Report and Order on Reconsideration, Third Further Notice of Proposed Rulemaking, and Sixth Further Notice of Proposed Rulemaking, FCC 01-26, CC Docket Nos. 98-147 and 96-98 (Released Jan. 19, 2001).</i> | (Line Sharing Reconsideration Order)       |

## APPENDIX E

### DOCKET NO. 97I-198T Commission Staff Report – Volume III

#### LIST OF EXHIBITS

| <b><u>Exhibit.<br/>Number.</u></b> | <b><u>Title</u></b>   |
|------------------------------------|---|
| 3-Qwest-1                          | Karen Stewart Direct  |
| 3-Qwest-2                          | Karen Stewart Rebuttal  |
| 3-Qwest-3                          | KAS Drawing   |
| 3-Qwest-4                          | KAS Drawing – Collocation for Intermediary Offices                                  |
| 3-Qwest-5                          | Line Sharing Agreement  |
| 3-Qwest-6                          | Deload Project Documentation  |
| 3-Qwest-7A                         | Red Lined Dark Fiber Language (§ 9.7.3.1)   |
| 3-Qwest-7B                         | § 9.7.3.2   |
| 3-Qwest-8                          | Clean Copy Dark Fiber Language  |
| 3-Qwest-9                          | Red Lined § 9.4, Line Sharing   |
| 3-Qwest-10                         | Clean Copy § 9.4, Line Sharing  |
| 3-Qwest-11                         | Qwest Line Sharing Comments   |
| 3-Qwest-12                         | KAS Comments  |
| 3-Qwest-13                         | Jean Liston Comments  |
| 3-Qwest-14                         | Language (§ 9.20.3.1)   |
| 3-Qwest-15                         | Diagram – Multiple DA Served by Remote Terminal                                     |
| 3-Qwest-16                         | May 19 FCC Ex Parte   |
| 3-Qwest-17                         | Packet Switching Language (§ 9.20.4.2)  |
| 3-Qwest-18                         | Diagram – Terminology for Sub-Loop at MDU   |
| 3-Qwest-19                         | Intrabuilding Cable Language (§ 9.20.4.1)   |
| 3-Qwest-20                         | Packet Switching Agendum (§ 9.20.4.3.1)   |
| 3-Qwest-21                         | Language (§ 9.7.3.1.2)  |
| 3-Qwest-22                         | Language LS-10B combined with LS-12   |
| 3-Qwest-23                         | Promised Language Dealing with Purchasing Splitters and Reimbursement (§ 9.4.2.3.1) |
| 3-Qwest-24                         | Conditioning Intervals Business Days  |
| 3-Qwest-25                         | FOC Policy Language   |
| 3-Qwest-26                         | Qwest Performance Results, ROC 271, PID 2.2   |
| 3-Qwest-27                         | Supplemental Affidavit  |
| 3-Qwest-28                         | KAS Supplemental Affidavit  |
| 3-Qwest-29                         | KAS Errata Supplemental Affidavit   |
| 3-Qwest-30                         | Letter – AT&T Lisa Anderi to Steven Wreigler  |
| 3-Qwest-31                         | Access to Dark Fiber Proposal   |
| 3-Qwest-32                         | § 9.3.1   |
| 3-Qwest-33                         | Revision of § 9.3.1.7   |
| 3-Qwest-34                         | Revision of § 9.7.1   |
| 3-ATT-1                            | Direct Testimony of Peltó   |
| 3-ATT-2                            | Transition Matrix for Line Sharing/Splitting  |
| 3-ATT-3                            | AT&T Supplemental Comments  |
| 3-ATT-4                            | AT&T Proposed Section, § 9.3  |
| 3-ATT-5                            | Sub-Loop Primer   |
| 3-ATT-6                            | COIL for Sub-Loop   |
| 3-Covad-1                          | Initial Comments filed October 18, 2000   |



| <b><u>Exhibit.<br/>Number.</u></b> | <b><u>Title</u></b>   |
|------------------------------------|---|
| 3-Covad-2                          | Two- page letter dated August 15  |
| 3-Covad-3                          | Letter Dated August 23  |
| 3-Covad-4                          | Confidential Exhibit – Two Volumes of Materials                                   |
| 3-Covad-5                          | Confidential Exhibit – Five Pages of Charts/Graphs                                |
| 3-Covad-6                          | Confidential Exhibit – Single Page October 25, 2000--Intervals Met                |
| 3-Covad-7                          | Supplemental Comments dated April 2, 2001   |
| 3-Covad-8                          | Qwest Response to Covad's First Discovery, 12/11/00                               |
| 3-ICG-1                            | ICG initial comments dated October 10, 2000                                       |
| 3-Joint Commentors-1               | Joint Initial Comments dated October 10, 2000                                     |
| 3-Joint Commentors-2               | April 19 Press Release from Qwest   |
| 3-Joint Commentors-3               | July 19 Press Release from Qwest  |
| 3-Joint Commentors-4               | October 24 Press Release from Qwest   |
| 3-Joint Commentors-5               | September 15 Press Release from Qwest   |
| 3-Joint Commentors-6               | October 26 Press Release from Qwest   |
| 3-Joint Commentors-7               | Qwest Megabit Tariff from the FCC   |
| 3-Joint Commentors-8               | Products FAQs on Megabit  |
| 3-Jato-1                           | Jato Original Comments dated October 10, 2000                                     |
| 3-Jato-2                           | Confidential Exhibit – Information Regarding Jato Experiences with Work Force     |
| 3-Jato-3                           | Confidential Exhibit – Information Regarding Jato Experiences with IMA/Loop Qual. |
| 3-Jato-4                           | Confidential Exhibit - Held Order Report Breakdown for May 24                     |
| 3-Jato-5                           | Confidential Exhibit – Information Regarding Jato Experiences                     |
| 3-Jato-6                           | Affidavit of Mr. Jeffrey Bisgard dated October 10, 2000                           |
| 3-Rhythms-1                        | Qwest Line Sharing Performance  |
| 3-Rhythms-2                        | Chart on xDSL Loops Provisioning--Intervals                                       |
| 3-Rhythms-3                        | Supplemental Affidavit of Valerie Kendrick dated April 2, 2001                    |
| 3-WCom-1                           | Thomas Friday Testimony dated October 10, 2000                                    |
| 3-WCom-2                           | WCom Supplemental Comments dated December 5, 2000                                 |
| 3-Yipes-1                          | Comments dated April 2, 2001  |
| 3-Yipes-2                          | Comments of Bruce Holdridge   |

## **APPENDIX F**

### **DOCKET NO. 97I-198T Commission Staff Report – Volume III**

#### **LIST OF ACRONYMS**

| <b><u>Acronym</u></b> | <b><u>Meaning</u></b>                                 |
|-----------------------|---|
| ADSL                  | Asymmetric Digital Subscriber Line                    |
| AIN                   | Advanced Intelligent Network                          |
| ASR                   | Access Service Request                                |
| ATM                   | Asynchronous Transfer Mode                            |
| BFR                   | Bona Fide Request                                     |
| BOC                   | Bell Operating Company                                |
| CCSACS                | Common Channel Signaling Access Capability Service    |
| CEV                   | Controlled Environmental Vault                        |
| CICMP                 | Co-Provider Industry Change Management Process        |
| CLEC                  | Competitive Local Exchange Carrier                    |
| CLLI                  | Common Language Location Indicator                    |
| COSMIC                | Registered Trade Mark Distribution Frame              |
| COT/NT                | Central Office Technician/Network or Field Technician |
| DID                   | Direct Inward Dialing                                 |
| DLC                   | Digital Loop Carrier                                  |
| DLEC                  | Data Local Exchange Carrier                           |
| DLR                   | Design Layout Report                                  |
| DSL                   | Digital Subscriber Line                               |
| DSLAM                 | Digital Subscriber Line Access Multiplexer            |
| DTT                   | Direct Trunk Transport                                |
| EAS                   | Extended Area Service                                 |
| EB-TA                 | Electronic Bonding - Trouble Administration           |

| <b><u>Acronym</u></b> | <b><u>Meaning</u></b>                              |
|-----------------------|--|
| EDI                   | Electronic Data Interchange                        |
| EEL                   | Enhanced Extended Link                             |
| EF                    | Entrance Facility                                  |
| E-UDF                 | Extended Unbundled Dark Fiber                      |
| EUDIT                 | Extended Unbundled Dedicated Interoffice Transport |
| ETC                   | Eligible Telecommunications Carrier                |
| FCP                   | Field Connection Point                             |
| FDI                   | Feeder Distribution Interface                      |
| FDP                   | Fiber Distribution Panel                           |
| FOC                   | Firm Order Confirmation                            |
| FOT                   | Fiber Optic Terminal                               |
| FTTC                  | Fiber to the Curb                                  |
| FVQP                  | Field Verification and Quote Preparation           |
| GUI                   | Graphical User Interface                           |
| HFS                   | High Frequency Spectrum                            |
| HUNE                  | High Frequency Spectrum Network Element            |
| HVAC                  | Heating, Ventilation, and Air-conditioning         |
| ICB                   | Individual Case Basis                              |
| ICDF                  | Interconnection Distribution Frame                 |
| IDF                   | Intermediate Distribution Frame                    |
| IDLC                  | Integrated Digital Loop Carrier                    |
| ILEC                  | Incumbent Local Exchange Carrier                   |
| IMA                   | Interconnection Mediated Access                    |
| IOF                   | Interoffice Facilities                             |
| IRRG                  | Interconnection and Resale Resource Guide          |
| ISDN                  | Integrated Services Digital Network                |
| ISIG                  | Interconnection Service Interval Guide             |

| <b><u>Acronym</u></b> | <b><u>Meaning</u></b>                                      |
|-----------------------|--|
| ITP                   | Interconnection Tie Pair                                   |
| LATA                  | Local Access and Transport Area                            |
| LCA                   | Local Calling Area   |
| LERG                  | Local Exchange Routing Guide                               |
| LFACS                 | Loop Facilities Administration and Customer Service System |
| LIS                   | Local Interconnection Service                              |
| LNP                   | Local Number Portability                                   |
| LOA                   | Letter of Authorization                                    |
| LRN                   | Location Routing Number                                    |
| LSR                   | Local Service Request                                      |
| MELD                  | Mechanized Engineering and Layout for Distribution         |
| MDF                   | Main Distribution Frame                                    |
| MDU                   | Multiple Dwelling Unit                                     |
| MPOE                  | Minimum Point of Entry                                     |
| MLT                   | Mechanized Loop Test                                       |
| MSA                   | Metropolitan Statistical Area                              |
| MTE                   | Multiple Tenant Environment                                |
| MVL                   | Multiple Virtual Lines                                     |
| NANC                  | North American Numbering Council                           |
| NANPA                 | North American Numbering Plan Administrator                |
| NC/NCI                | Network Channel/Network Channel Interface Codes            |
| NEBS                  | Network Equipment Building System                          |
| NENA                  | National Emergency Number Association                      |
| NID                   | Network Interface Device                                   |
| NIRC                  | Network Interoperability and Reliability Council           |
| NGDLC                 | Next Generation Digital Loop Carrier                       |
| NGDSL                 | Next Generation Digital Subscriber Line                    |

| <b><u>Acronym</u></b> | <b><u>Meaning</u></b>                                 |
|-----------------------|---|
| NPAC                  | Number Portability Administration Center              |
| OSS                   | Operations Support System                             |
| PAP                   | Performance Assurance Plan                            |
| PCAT                  | Product Catalog                                       |
| PID                   | Performance Indicator Definition                      |
| PLU                   | Percent Local Usage                                   |
| POI                   | Point of Interconnection (or Interface)               |
| POLR                  | Provider of Last Resort                               |
| POTS                  | Plain Old Telephone Service                           |
| PSD                   | Power Spectral Density                                |
| PVC                   | Permanent Virtual Circuit                             |
| PVP                   | Permanent Virtual Path                                |
| QPF                   | Quote Preparation Fee                                 |
| RADSL                 | Rate Adaptive Digital Subscriber Line                 |
| ROC                   | Regional Oversight Committee                          |
| ROW                   | Right-of-Way  |
| RSU                   | Remote Switching Unit                                 |
| RT                    | Remote Terminal                                       |
| SGAT                  | Statement of Generally Available Terms and Conditions |
| SONET                 | Synchronous Optical Network                           |
| SOP                   | Service Order Processor                               |
| SPID                  | Service Provider Identification                       |
| SPOI                  | Single Point of Interface (or Interconnection)        |
| SPOT                  | Single Point of Termination                           |
| STP                   | Signaling Transfer Point                              |
| TAG                   | Technical Advisory Group                              |
| TDM                   | Time Division Multiplex                               |

| <b><u>Acronym</u></b> | <b><u>Meaning</u></b>                               |
|-----------------------|---|
| TELRIC                | Total Element Long Run Incremental Cost             |
| TGSR                  | Trunk Groups Servicing Request                      |
| TIRKS                 | Trunk Inventory Record Keeping System               |
| UDF                   | Unbundled Dark Fiber                                |
| UCCRE                 | Unbundled Customer Controlled Rearrangement Element |
| UDIT                  | Unbundled Dedicated Interoffice Transport           |
| UDL                   | Unbundled Distribution Sub-Loop                     |
| UDLC                  | Universal Digital Loop Carrier                      |
| UFL                   | Unbundled Feeder Sub-Loop                           |
| UNE                   | Unbundled Network Element                           |
| VDSL                  | Very High Data Rate Technology                      |
| xDSL                  | Digital Subscriber Line of Unspecified Bandwidth    |
| WDM                   | Wave Division Multiplexing                          |

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