upon the results of these five separate, comprehensive, independent third-party billing tests, BearingPoint found that SBC Midwest satisfied 100 percent (95 of 95) of the applicable test criteria in each test. See id. ¶ 25 & n.12.

The BearingPoint billing tests in the Midwest region began in March 2001 and were, for the most part, completed by the end of 2002 and early 2003. See id. ¶ 33 & nn.20-25. One of the tests that BearingPoint was engaged to perform was to measure whether UNE-P bills reflected the timely posting of UNE-P billing service orders into the billing systems. But BearingPoint determined that this particular test was one that had to be postponed in light of the commitment that SBC had made to convert all of its UNE-P billing accounts to the CABS database. Between August and October 2001 – that is, in the middle of BearingPoint's review of the billing systems – SBC was required to undertake this UNE-P CABS conversion, which proved to be an enormously complicated project. See id. ¶¶ 43-58. Rather than try to test the timeliness of the posting of UNE-P billing service orders at the same time that UNE-P billing accounts were being converted to CABS, BearingPoint, in consultation with the state commissions and SBC, concluded that it should wait until after the conversion was completed.

When BearingPoint finally tested whether UNE-P billing service orders were being timely posted to CABS and reflected on UNE-P bills in Illinois, Indiana, Ohio, and Wisconsin – between February and March 2002 – the effects from the one-time UNE-P CABS conversion were still being felt. See id. ¶ 39. Not surprisingly, the results of that particular test were poor and led to the issuance of a BearingPoint exception. Throughout the spring and early summer of 2002, however, SBC made a number of critical modifications to its systems and procedures to

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Operational Support Systems, Docket No. 6720-TI-160 (PSCW Nov. 28, 2000) (App. M, Tab 43).

permit the increasingly timely posting of UNE-P billing service orders into CABS. By the time BearingPoint conducted a retest in Indiana, Illinois, and Wisconsin – from August to October 2002 – SBC easily passed the test.[129] Subsequently, based upon SBC's representation (and upon its own experience) that the SBC Midwest billing systems and processes are the same, BearingPoint recommended that the results achieved in Illinois, Indiana, and Wisconsin be included in the test results for Ohio. See id. ¶ 42.[130]

Although the issues relating to the conversion were substantially resolved by the time that BearingPoint conducted its retesting of the timely posting of UNE-P billing service orders to CABS in the August to October 2002 timeframe (thereby accounting for the remarkable results that BearingPoint achieved on the retest), there remained a number of UNE-P records in CABS that were inconsistent with the corresponding records in ACIS. See id. ¶ 57. As explained to the CLECs, SBC determined that a final reconciliation of the two databases was necessary.[131] That ACIS/CABS reconciliation took place during January 2003, and SBC made corresponding adjustments to the CLEC bills. See id. ¶¶ 57-58.

After SBC withdrew its initial Michigan Application, it engaged E&Y to review the reconciliation process to determine whether it had, in fact, performed as SBC intended and whether the UNE-P bills generated by CABS today are generally accurate and reliable. E&Y has

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[129] BearingPoint determined that the "Billing Test CLEC's" UNE-P service order activity was timely posted to the bills 97.1 percent of the time in Illinois and 100 percent of the time in both Indiana and Wisconsin. Consequently, BearingPoint determined that the issues raised by its earlier exception had been addressed in a satisfactory manner and that SBC Midwest satisfied this test criterion in these three states. See Brown/Cottrell/Flynn Joint Aff. ¶ 41.

[130] BearingPoint's Ohio OSS Evaluation Project Report at 815-16 (May 23, 2003) (App. C-OH, Tab 126).

[131] See Accessible Letter CLECAM02-509 (Nov. 21, 2002) (App. I, Tab 35).

now completed its review and has verified that SBC's methodology used to conduct the reconciliation was implemented appropriately in Illinois, Indiana, Ohio, and Wisconsin.[132] Id. ¶¶ 59-82.[133] In addition to its thorough validation of the reconciliation, E&Y also validated a statistically valid sample of current circuits to ensure that the records in ACIS and CABS match one another. See id. ¶¶ 83-84; Horst June 2003 Supp. Aff., Attach. B at 8, Attach. C at 11-12. E&Y found that 99 percent of the CABS records are identical to the corresponding records in ACIS. See Brown/Cottrell/Flynn Joint. Aff. ¶ 83; see also Ex Parte Letter from Geoffrey M. Klineberg, Kellogg, Huber, Hansen, Todd & Evans, P.L.L.C., to Marlene H. Dortch, FCC, WC Docket No. 03-16, Attach. A at 5 (Apr. 3, 2003) (App. M, Tab 157). These results are remarkable, given that SBC had processed more than 1.7 million service orders between the time the ACIS/CABS reconciliation was completed in January 2003 and the end of April 2003. See id.[134]

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[132] See Brown/Cottrell/Flynn Joint Aff., Attach. F (Supplemental Affidavit of Brian Horst, WC Docket No. 03-138 (FCC filed June 19, 2003) ("Horst June 2003 Supp. Aff.")), Attach. B at 4-8.

[133] E&Y also validated the accuracy of the adjustments to the bills that SBC Midwest made as a result of the reconciliation. Although E&Y found that the adjustments were calculated correctly, it noted some discrepancies in the "effective dates" that SBC utilized to back bill or credit particular CLECs. These discrepancies had nothing to do with the CABS billing system or with the underlying rate tables. See Brown/Cottrell/Flynn Joint Aff. ¶ 74. Rather, they were the result of errors in interpreting specific contracts when determining how far back to credit or debit the CLEC's account. As a result of E&Y's review, SBC has undertaken corrective action. See id. ¶ 75. E&Y has validated the accuracy of these corrections. See id. ¶ 76; Horst June 2003 Supp. Aff., Attach. B at 5-8.

[134] In order to ensure that the ACIS and CABS databases remain in sync, SBC proposed at the last SBC Midwest Billing collaborative (June 26, 2003) the adoption of a new performance measurement to calculate the percent of ACIS UNE-P provisioning records that match the corresponding CABS UNE-P billing records. See Brown/Cottrell/Flynn Joint Aff. ¶ 85 & Attach. E.

SBC also engaged E&Y to verify the accuracy of the data that SBC presented in the original Michigan proceeding regarding the percentage of billing service orders that posted mechanically to CABS. See Horst June 2003 Supp. Aff., Attach. B at 9, Attach. C at 15-16. E&Y has validated SBC's data indicating that SBC's mechanized posting of billing service orders improved from 71 percent in March 2002 to 96 percent by March 2003. See Brown/Cottrell/Flynn Joint Aff. ¶ 87 With these improvements in mechanized posting, SBC has reduced the potential for error resulting from manual handling and greatly increased the volume of orders that post without the need for LSC intervention. See Brown/Cottrell/Flynn Joint Aff. ¶¶ 86-87.

SBC has established a comprehensive process for ensuring that the rate tables used to bill its customers are updated in a timely and accurate manner. See id. ¶¶ 90-93. E&Y has now extensively validated the accuracy of SBC Midwest's rating of UNE billing elements, including monthly recurring charges, non-recurring charges, and usage rates from the CLECs' bills through to the applicable interconnection agreement or tariff. See Horst June 2003 Supp. Aff., Attach. B at 8-9, Attach. C at 12-15, 31-33. As part of its validation, E&Y selected a sample of UNE and UNE-P circuits from the CABS database and tested them to ensure that the rates appearing on those bills accurately reflect the rates that should be charged to the CLEC, based upon the rate tables in CABS and the individual interconnection agreement or tariff applicable to that CLEC. See id., Attach. C at 12-14. For the monthly recurring charges, E&Y tested more than 4,800 USOCs and found an overall accuracy rate of greater than 98.4 percent. See Brown/Cottrell/Flynn Joint Aff. ¶ 98. For non-recurring charges, out of more than 600 USOCs sampled, E&Y found an overall accuracy rate of greater than 98.6 percent. See id. ¶ 100. With

respect to its usage testing, E&Y identified an accuracy rate of greater than 96.8 percent. See id. ¶ 102.[135]

Finally, E&Y tested a sample of rates from contracts that had been updated since January 2003 to ensure that SBC has processes in place to update rates in newly approved interconnection agreements. E&Y's testing results produced only a 1 percent error rate, confirming that SBC updates new rates with a high degree of accuracy. See id. ¶ 104; Horst June 2003 Supp. Aff., Attach. C at 14-15.

Notwithstanding the fact that SBC provides reliable, auditable, and accurate bills, CLECs will continue to complain about them. SBC Midwest has specific processes and procedures in place to resolve any billing disputes that arise. See Brown/Cottrell/Flynn Joint Aff. ¶¶ 134-140.[136] Both the BearingPoint tests and E&Y's recent validations confirm that SBC Midwest's

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[135] Approximately half of the usage errors arose out of a single mistake in implementing an order of the Indiana Utility Regulatory Commission. See Brown/Cottrell/Flynn Joint Aff. ¶ 102 & n.93. If these Indiana errors were removed from the calculation, E&Y would have found that SBC Midwest's billing of usage is more than 98.4 percent accurate. See id. ¶ 102; Horst June 2003 Supp. Aff., Attach. B at 9, Attach. C at 32. In addition, because of this usage issue in Indiana, SBC engaged E&Y to perform additional testing. Specifically, E&Y validated the accuracy of SBC's corrective action to the CABS rate table and tested 100 percent of the unbundled local switching usage rates utilized to bill CLECs in Indiana. See Horst July 2003 Aff. (App. A, Tab 28), Attachs. D & E. E&Y audited the CABS usage rate tables and interconnection contracts involving 30 CLECs, more than 150 billing account numbers, and more than 900 usage rates. E&Y confirmed that the rates utilized to calculate unbundled local switching usage charges associated with UNE-P circuits are in agreement with all applicable rates in the CLEC interconnection agreements or tariffs as of June 24, 2003. See id., Attach. F at 4.

[136] The BOC applicants have fully complied with the modified compliance plans regarding billing auditability and dispute resolution and continue to work on improvements. See Brown/Cottrell/Flynn Aff. ¶¶ 137-138. As part of those plans, the BOC applicants have participated in the CLEC Billing subcommittee of the CLEC User Forum ("CUF") to address with CLECs the resolution of billing dispute issues. More than 56 CLEC billing issues have been raised since the Billing subcommittee formed in the CUF on February 19, 2003, and 29 of

processes and procedures result in accurate wholesale bills. The disputes that inevitably arise are not the result of systemic billing failures but, instead, generally fall into readily identifiable categories: there are disputes over the proper interpretation of the terms of interconnection agreements; there are disputes about how a specific rate should be applied; and there are typically a number of inevitable misunderstandings and human errors on both sides that lead to billing inaccuracies of one sort or another. When any such errors are identified – either unilaterally by SBC Midwest or as a result of the established dispute resolution process – those errors are resolved. See id. ¶¶ 141-149.[137]

Billing disputes are a commercial fact of life; there is nothing strange or unusual about SBC's experience in the Midwest on this score. Indeed, the percentage of bills that have been disputed by CLECs over the past 17 months (i.e., from the beginning of January 2002 through the end of May 2003) in Illinois, Indiana, Ohio, and Wisconsin is comparable to the dispute rate in other states that have received section 271 approval. See id. ¶ 131.[138] More importantly, the simple fact that a CLEC disputes a bill is not evidence that there is a systemic problem with the billing systems. CLECs dispute their bills for a variety of reasons, many of which have nothing

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those issues have been fully resolved. The parties have been actively discussing the remaining issues, most recently at the subcommittee meeting held on June 12, 2003. See id. ¶ 140.

[137] See, e.g., Brown/Cottrell/Flynn Joint Aff. ¶¶ 105-126 (discussing various issues uncovered through the investigation of CLEC billing claims that SBC has corrected and that E&Y has validated); Horst June 2003 Supp. Aff., Attach. B at 14-15, Attach. C at 24-27; Horst July 2003 Aff., Attach. B at 1-6, Attach. C at 2-11.

[138] For a detailed discussion of the nature of the current billing disputes, as well as a rebuttal to specific CLEC allegations that have surfaced relating to billing, see Brown/Cottrell/Flynn Joint Aff. ¶¶ 128-185.

to do with the capability of the billing systems to calculate and issue accurate bills based on the information that has been inputted into those systems.

As of July 1, 2003, the total amount in dispute between SBC Midwest and CLECs in Illinois, Indiana, Ohio, and Wisconsin was approximately $30.4 million. Those claims fall into several broad categories: approximately $6.9 million relate to the disputes over the proper interpretation of interconnection agreements; approximately $12.9 million relate to CLEC allegations that they have been charged an inappropriate rate for a particular service; and the remainder falls into categories such as amounts relating to the ACIS/CABS reconciliation and other miscellaneous issues. See id. ¶ 142. SBC Midwest is addressing all of these issues through its billing dispute resolution process. See id. ¶¶ 143-149. It is the LSC that is responsible for answering billing claim inquiries, processing adjustments for incorrect bills, and otherwise resolving CLEC billing disputes. The process is designed to be as efficient and standardized as possible, while remaining flexible enough to address the myriad billing issues and questions that arise. SBC follows the same billing dispute resolution process throughout its 13-state region, including SBC Midwest and those states that have already received section 271 approval. See id. ¶ 134.

### C. Checklist Item 3: Poles, Ducts, Conduits, and Rights-of-Way

Section 271(c)(2)(B)(iii) requires a BOC to provide "[n]ondiscriminatory access to the poles, ducts, conduits, and rights-of-way owned or controlled by the [BOC] at just and reasonable rates in accordance with the requirements of [47 U.S.C. §] 224." 47 U.S.C. § 271(c)(2)(B)(iii). Each of the applicant telephone companies provides such access in a manner consistent with their obligations under Checklist Item 3. See Stanek Aff. ¶¶ 9-27 (App. A, Tab 38).

Each of the BOC applicants has a long history of providing access to its poles and conduits. See id. ¶ 4. As of May 31, 2003, third parties (such as cable operators) and CLECs have thousands of pole attachments in each of the applicant states and occupy millions of linear feet of conduit innerduct. See id. ¶ 7.[139]

Both the ICC and the PUCO have certified to this Commission that they regulate the rates, terms, and conditions of access to poles, ducts, conduits, and rights-of-way in conformance with section 224(c)(2) and (3). Id. ¶ 5. Each of the BOC applicants has developed and offered a structure access appendix, available to any telecommunications carrier and containing terms and conditions consistent with 47 U.S.C. § 224, the Local Competition Order, and applicable state law. Id. ¶ 6 (indicating that the current form of that appendix has been adopted in the Easton Agreement).[140] At the request of a telecommunications carrier, each of the applicant telephone companies will also negotiate, and if necessary arbitrate, modifications to the standard appendix. Id.

Except where there is insufficient capacity to accommodate a request or where the request is denied based upon nondiscriminatory considerations of safety, reliability or engineering principles, the applicant telephone companies make available, to the extent they may lawfully do so, access to poles, ducts, conduits and rights-of-way they own or control. Id. ¶ 10.

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[139] In Illinois, third parties occupy approximately 693,000 pole attachments with 2.4 million linear feet of conduit innerduct; in Indiana, third parties occupy approximately 131,000 pole attachments with 410,000 linear feet of conduit innerduct; in Ohio, third parties occupy approximately 700,000 pole attachments with 2.3 million linear feet of conduit innerduct; and, in Wisconsin, third parties occupy approximately 61,000 pole attachments with 222,000 linear feet of conduit innerduct. See Stanek Aff. ¶ 7.

[140] See Easton Agreement, App. SA – Poles, Conduits and ROW (effective as of December 31, 2002, in Illinois; November 9, 2002, in Indiana; September 18, 2002, in Ohio; and November 6, 2002, in Wisconsin).

The BOC applicants will provide a party requesting access, at that party's expense, access to and copies of maps, records and additional information related to the BOC applicants' poles, ducts, conduits and rights-of-way. Id. ¶ 11. They also offer and provide assistance and guidance to any CLEC applying to them for an occupancy permit. Id. ¶ 12.

The applicant telephone companies respond within 45 days after receiving the request for access. Id. ¶ 13. If access is granted, the BOC applicant will advise the requesting party in writing what capacity expansions, make-ready work, or facilities modifications, if any, are required for the specific benefit of the requesting party and an estimate of the associated charges. If access is denied, the BOC applicants' response will include all relevant evidence and information supporting the denial, including an explanation of how such evidence and information relates to the denial for reasons of lack of capacity, safety, reliability, or engineering standards. Id. Except for maintenance ducts and ducts required to be reserved for use by municipalities, all usable but unused space on or in the telephone companies' poles, ducts, conduits and rights-of-way is available for assignment. Neither the applicant telephone companies nor any other requesting party may reserve space for future needs. Id. ¶ 14.

The BOC applicants have established performance measurements to measure the percentage of requests for access to poles, ducts, conduits and rights-of-way processed within 35 days (PM 105) and the average time it takes to process a request for access to poles, ducts, conduits and rights-of-way (PM 106). Id. ¶ 3 n.2. The results for PM 105 show that, over the past three months, none of the requests for access to poles, ducts, conduits, and rights-of-way by CLECs in Illinois required more than 35 days to process. See Ehr IL Aff. ¶ 64 & Attach. B (PM

105-01).[141] And, according to PM 106, the requests in Illinois were processed on average in 16.18 days. See id. ¶ 64 & Attach. B (PM 106). These performance results demonstrate that the BOC applicants provide CLECs with nondiscriminatory access to its poles, ducts, conduits, and rights-of-way.

### D. Checklist Item 4: Unbundled Local Loops

Checklist Item 4 requires a BOC to make local loop transmission from a central office to customer premises available on an unbundled basis. See 47 U.S.C. § 271(c)(2)(B)(iv). In order to establish compliance with this checklist item, a BOC must demonstrate that it: (i) has a concrete and specific legal obligation to provide unbundled loops; (ii) is furnishing quality loops in quantities that competitors reasonably demand; and (iii) provides nondiscriminatory access to local loop transmission. E.g., Kansas/Oklahoma Order ¶ 178; Texas Order ¶¶ 247-248; New York Order ¶ 269. Compliance with Checklist Item 4 is measured by reviewing the BOC applicant's loop offerings in the aggregate. See AT&T Corp. v. FCC, 220 F.3d 607, 624 (D.C. Cir. 2000).

The BOC applicants fully comply with this checklist item, allowing CLECs to lease unbundled loops to provide local service without matching the BOCs' large, sunk investments in those facilities. The BOC applicants have each provisioned thousands of stand-alone loop UNEs in their states (ranging from 53,000 in Indiana to 319,000 in Illinois). See Heritage IL Aff., Attach. A; Heritage IN Aff., Attach. A. CLECs can also obtain this UNE as part of a UNE combination (e.g., UNE-P and EEL). In addition, the BOC applicants have established

[141] In Indiana, Ohio, and Wisconsin, no CLECs have requested access to poles, ducts, conduits, or rights-of-way during the last three months. See Ehr IN Aff. ¶ 58; Ehr OH Aff. ¶ 57 & Attach. C (PM 105); Ehr WI Aff. ¶ 57.

nondiscriminatory processes and procedures for the provisioning of xDSL-capable loops and related services, and they each have complied fully with their obligations under the Line Sharing Order, the Line Sharing Reconsideration Order,[142] and the UNE Remand Order. See supra Part III.B. The ICC concluded, "[o]n the whole of the record . . . SBC Illinois' performance results demonstrate that it provides nondiscriminatory access to unbundled loops in accordance with the requirements of checklist item 4." ICC Final Order ¶ 1871. The PUCO concluded that, "[b]ased on the evidence provided in this case [it] recommends that the FCC find that SBC Ohio is in compliance with Checklist Item 4." PUCO Final Report and Evaluation at 175.[143]

### 1. Nondiscriminatory Access to Unbundled Loops Used for Advanced Services

The BOC applicants have processes and procedures in place to ensure that CLECs receive nondiscriminatory access in the pre-ordering, ordering, and provisioning of xDSL-capable loops and related services, and the HFPL. See generally Chapman Aff. These systems have been tested through extensive commercial usage in all four applicant states. The BOC applicants' performance in pre-ordering, ordering, provisioning, and maintenance of xDSL-capable loops demonstrates that they offer competing carriers nondiscriminatory access to xDSL-capable loops in their states. See Kansas/Oklahoma Order ¶¶ 182-183; Texas Order ¶ 284.

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[142] Third Report and Order on Reconsideration in CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket No. 96-98, Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147, Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, Deployment of Wireline Services Offering Advanced Telecommunications Capability, 16 FCC Rcd 2101 (2001); see also Order Clarification, Deployment of Wireline Services Offering Advanced Telecommunications Capability, 16 FCC Rcd 4628 (2001).

[143] The PSCW also expressly found that Wisconsin Bell satisfied this checklist item. See PSCW Phase I Final Order at 24 (Conclusion of Law 19).

Furthermore, the BOC applicants have implemented a fully operational separate affiliate for the provision of all advanced services. Ameritech Advanced Data Services ("AADS") is SBC's provider of advanced services in the applicant states. See Habeeb Aff. ¶ 4 (App. A, Tab 23). AADS orders facilities and services from the BOC applicants using interfaces that they have made available to CLECs, thus providing additional assurance that the available systems and procedures allow CLECs a meaningful opportunity to compete. See id. ¶ 6. Since line sharing became operational throughout the SBC Midwest region, moreover, AADS orders the HFPL using the same interfaces used by other CLECs. Id. ¶¶ 6, 11. AADS is operating in accordance with structural separation and nondiscrimination rules that the Commission established in the SBC/Ameritech Merger Order.[144] Accordingly, this constitutes "significant evidence" that the BOC applicants provide nondiscriminatory access to loops used for advanced services. New York Order ¶ 331.

**a. Pre-Ordering and Ordering xDSL-Capable Loops**

The BOC applicants' xDSL pre-ordering and ordering processes allow CLECs to offer their customers any type of xDSL service, subject only to national industry standards for spectrum management. See Chapman Aff. ¶ 6. These processes have been fine-tuned through extensive collaboration with the data CLECs, as well as through high commercial volumes.

For pre-ordering, the BOC applicants provide both unaffiliated CLECs and AADS nondiscriminatory access to actual loop make-up information through a combination of electronic and manual processes. See id. ¶¶ 12-26; Cottrell/Lawson Joint Aff. ¶¶ 67-75; see also,

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[144] Memorandum Opinion and Order, Applications of Ameritech Corp., Transferor, and SBC Communications Inc., Transferee, For Consent to Transfer Control, 14 FCC Rcd 14712 (1999), vacated in part, Association of Communications Enters. v. FCC, 235 F.3d 662 (D.C. Cir. 2001).

e.g., Massachusetts Order ¶ 68 (approving manual and electronic loop qualification processes). This loop "qualification" process provides CLECs with electronic access to detailed information regarding the suitability of particular loops for xDSL services. See Chapman Aff. ¶¶ 22-23. First, the BOC applicants provide electronic access to any actual loop make-up information contained in their live provisioning and engineering databases, including the actual loop length and the presence of any xDSL-disturbing devices. See id. ¶¶ 23-24. In addition, the BOC applicants offer CLECs the ability to access any loop make-up information stored in their archived database, which contains loop make-up information that has been "pre-pulled" from the live provisioning systems. The archived database is generally updated by wire center on a monthly basis. Id. ¶ 19.

In the event that the electronic databases do not contain actual loop make-up information, or to the extent that a CLEC desires more detailed information than is available electronically, affiliated and unaffiliated CLECs alike have the option of requesting that the BOC applicants' back office personnel manually retrieve loop make-up data. See Cottrell/Lawson Joint Aff. ¶ 71. Whenever a CLEC or AADS requests manual loop qualification, the BOC applicants' outside plant engineering staff will gather the loop make-up information from their paper records, update the loop qualification database, and make the information available to the requesting carrier. See Chapman Aff. ¶¶ 20, 23. If the BOC applicants' legacy network does not have a complete loop to the requested premises, the BOCs will return information representative of a loop that could be assembled to service that customer premises. See Chapman Aff. ¶ 24.

As James D. Ehr explains in his affidavits, the BOC applicants' performance in responding to loop qualification queries is easily sufficient to provide CLECs a meaningful

opportunity to compete. See, e.g., Ehr IL Aff. ¶¶ 86-89 (discussing pre-order response times).[145] Regardless of the interface that CLECs choose to utilize, and whether they submit electronic or manual loop qualification inquiries, the BOC applicants provide timely access to loop make-up information in full compliance with its obligations under Checklist Item 4.

For purposes of ordering loops for advanced services, CLECs use processes that are largely analogous to those used to order ordinary, stand-alone unbundled loops. See Chapman Aff. ¶ 5. While these order flows and interfaces are themselves nondiscriminatory, AADS now uses these same systems in order to further ensure that CLECs receive nondiscriminatory access. See Habeeb Aff. ¶ 6. The BOC applicants offer loop provisioning intervals for CLECs that are the same as or shorter than the intervals available to AADS. See Chapman Aff. ¶ 44. CLECs also have the option of selecting the precise loop conditioning they desire, and can even authorize (in their LSR) whatever conditioning is necessary to provision their desired service over a given loop. See id. ¶¶ 36-40, 43.

**b. Line Sharing**

The applicant telephone companies have implemented line sharing in their respective states in accordance with this Commission's requirements, affording both data CLECs and AADS the same opportunity to share the high-frequency portion of a voice line. See generally id. ¶¶ 51-81. In accordance with the Line Sharing Order, the BOC applicants unbundled the new HFPL UNE offering, which was developed in extensive collaboration with interested CLECs and was patterned after the xDSL-capable loop offering that has been found by the Commission to be 271 compliant in its Texas, Kansas/Oklahoma, and Arkansas/Missouri orders. Id. ¶ 52 & n.29.

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[145] See also Ehr IN Aff. ¶¶ 77-79; Ehr OH Aff. ¶¶ 78-80; Ehr WI Aff. ¶¶ 76-78.

The BOC applicants continue to work collaboratively with the CLECs on an ongoing basis to resolve issues as they arise. Id. ¶¶ 55-56.

The applicant telephone companies make line sharing available to CLECs pursuant to approved interconnection agreements that fully comply with the Line Sharing Order and into which any CLEC can opt. See id. ¶ 69 & n.38. A CLEC may negotiate alternative terms. Id.

CLECs can utilize the same pre-ordering interface to obtain loop make-up information for stand-alone or line-shared loops and to order a manual look-up of any actual loop make-up information not stored in the live or archived electronic databases. This detailed, customer-specific information permits the data CLEC to determine whether it can provide DSL service to a particular end user via either the HFPL UNE or a stand-alone loop. See id. ¶¶ 17, 19; Cottrell/Lawson Joint Aff. ¶ 67. When ordering an HFPL UNE, in contrast to a stand-alone xDSL-capable loop, the data CLEC must identify the end user's telephone number and specify the desired arrangement for the line splitter. See Chapman Aff. ¶ 60. CLECs can submit HFPL orders either manually or through the available electronic interfaces. See id. ¶ 59 (for electronic ordering); Brown Aff. ¶ 20 (for manual ordering).

**c. Line Splitting**

The BOC applicants permit CLECs to engage in line splitting using UNEs in full compliance with the Commission's rules. Chapman Aff. ¶¶ 82-89. The BOC applicants support line splitting where a CLEC purchases separate UNEs (including unbundled loops, unbundled switching, and associated cross-connects) and combines them with its own (or a partner CLEC's) splitter in a collocation arrangement. A CLEC may lease an xDSL-capable loop UNE from SBC and use the loop to provision both data and voice services itself or in collaboration with another CLEC. Id. ¶¶ 82-83. CLECs can order a brand new line splitting arrangement through available

electronic ordering systems. Id. ¶ 87. In addition, if a CLEC seeks to engage in line splitting for an existing UNE-P voice customer, the BOC applicants will provide access to the same loop facility over which that customer currently receives service if the existing loop is xDSL-capable. Id. In August 2002, after consultation with CLECs, SBC Midwest additionally rolled out a single LSR process for converting an existing UNE-P voice customer to a line splitting arrangement. Id. By allowing CLECs to engage in line splitting in these ways, the BOC applicants meet all Commission requirements for line splitting. See, e.g., Texas Order ¶¶ 323-329; Kansas/Oklahoma Order ¶¶ 220-221.

The BOC applicants also have a process to allow a CLEC, when line splitting is no longer desired, to request that SBC reconfigure the switch port into a UNE-P for the voice service. See Chapman Aff. ¶ 88. Under this process, the voice CLEC may submit a single LSR to reconfigure the existing switch port in a line-splitting arrangement to the UNE-P. Upon receipt of such an order, the BOC applicant would establish a new voice-grade loop to the customer, disconnect the existing switch port from the data CLEC's cage, and then connect a switch port to the new voice grade loop. Id. The customer would keep the same telephone number. A separate request to disconnect the existing xDSL-capable loop in the line splitting arrangement would be necessary, if desired, to disconnect and discontinue billing of that loop. Id. & n.47.

#### d. Performance in Provisioning xDSL-Capable Loops

The Commission has identified five areas of performance that are important in a BOC's demonstration that it provides nondiscriminatory access to xDSL-capable loops and related services: (i) average installation interval; (ii) missed installation appointments; (iii) quality of provisioned xDSL-capable loops; (iv) timeliness and quality of xDSL loop maintenance and

repair; and (v) access to pre-ordering and ordering information. See Kansas/Oklahoma Order ¶¶ 182-197; Texas Order ¶¶ 282-306; New York Order ¶¶ 334-335. The BOC applicants' performance in each of these areas is superb and accordingly establishes that each "provisions xDSL-capable loops for competing carriers in substantially the same time and manner that it installs xDSL-capable loops for its own retail operations." Kansas/Oklahoma Order ¶ 185.

Specifically, applicant telephone companies provision xDSL-capable and line-shared loops for CLECs in a timely manner. See, e.g., Ehr IL Aff. ¶¶ 66-76.[146] The quality of these advanced-services loops has been excellent. Id. ¶¶ 77-79.[147] The BOC applicants also provide data CLECs with quality and timely maintenance and repair service for advanced-services loops. Id. ¶¶ 80-85.[148] And the applicant telephone companies provide timely access to loop make-up information. As previously discussed, see supra Part III.D.1.a, its pre-order performance provides CLECs a meaningful opportunity to compete. Id. ¶¶ 86-89.[149]

In sum, the BOC applicants' excellent performance in provisioning xDSL-capable loops and line-shared loops demonstrates both that they provide nondiscriminatory access and that CLECs have a meaningful opportunity to compete in the market for advanced services in Illinois, Indiana, Ohio, and Wisconsin.

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[146] See also Ehr IN Aff. ¶¶ 62-69; Ehr OH Aff. ¶¶ 61-69; Ehr WI Aff. ¶¶ 61-68.

[147] See also Ehr IN Aff. ¶¶ 70-71; Ehr OH Aff. ¶¶ 70-71; Ehr WI Aff. ¶¶ 69-70.

[148] See also Ehr IN Aff. ¶¶ 72-76; Ehr OH Aff. ¶¶ 72-77; Ehr WI Aff. ¶¶ 71-75.

[149] See also Ehr IN Aff. ¶¶ 77-79; Ehr OH Aff. ¶¶ 78-80; Ehr WI Aff. ¶¶ 76-78.

### e. Performance in Provisioning BRI ISDN Loops

As they have elsewhere, CLECs in the applicant states have been offering IDSL service over loops designed to carry ISDN signals. As the Commission recognized in its Texas Order, "the fact that competing carriers use BRI loops for IDSL service . . . makes provisioning work more difficult than that required for the ISDN service that [the BOC] provisions using BRI loops." Texas Order ¶ 301 (footnote omitted); see also Chapman Aff. ¶¶ 46-50.

The BOC applicants have taken several steps to address the performance problems that stem from the technical incompatibility of some CLEC-provisioned IDSL service with the industry-standard BRI ISDN loop that the BOCs offer. First, they have worked with CLECs to develop a new IDSL loop offering that is now available. See Chapman Aff. ¶ 49. They have also upgraded the test equipment they use to ensure that the IDSL-capable loop product is provisioned correctly. Id. ¶ 50.

Largely as a result of these efforts, the BOC applicants' performance on the limited volumes of IDSL-capable loops has been strong. During the three-month period ending in May 2003, CLEC customers in Illinois, for example, experienced fewer missed installation appointments than did Illinois Bell's retail customers (2.7 percent for CLECs versus 3.62 percent for retail). Ehr IL Aff. ¶ 91. Over that same time period, Illinois Bell additionally installed more than 96.9 percent of CLEC BRI loop orders within the customer requested due date. Id. ¶ 92.[150]

The BOC applicants have also provisioned quality BRI loops, as reflected in the performance results for both trouble reports within 30 days of installation and the overall rate of

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[150] Similar results were achieved in Indiana, Ohio, and Wisconsin. See Ehr IN Aff. ¶ 81; Ehr OH Aff. ¶¶ 82-83; Ehr WI Aff. ¶¶ 80-81.

reported troubles. Id. ¶¶ 95-96.[151] On the limited occasions where CLEC BRI loops do experience troubles, CLECs generally receive faster and higher quality repair services than do the BOC applicants' retail customers. Id. ¶¶ 97-98.[152]

### 2. Nondiscriminatory Access to Stand-Alone Loops

The BOC applicants' loop offerings include 2-wire analog loops, 4-wire analog loops, 2-wire ISDN digital-grade lines, 4-wire DS1 digital-grade lines, DS3 digital loops, and various 2- and 4-wire loops capable of offering xDSL services. See, e.g., Deere IL Aff. ¶¶ 78-79. Additional loop types are available through the BFR process described in Part III.A, supra. See id. ¶¶ 8, 71-75. For the small percentage of end users served by integrated digital loop carrier ("IDLC") equipment – approximately three percent in Illinois – the BOC applicants provide unbundled loops through alternative facilities. Id. ¶¶ 100-102.[153] For CLECs that choose to have the BOC provide loops on a physically separate basis, the BOC applicants offer cross-connects that are matched to the loop type selected by the CLEC, and include a cross-connect to the CLEC's collocation space. Id. ¶ 80.

#### a. DS1 Loop Performance

The BOC applicants' performance in provisioning high-quality DS1 loops on a timely basis has been strong. As James D. Ehr explains, between March and May 2003, Illinois Bell met more than 97 percent of CLEC customer requested due dates for DS1 loops. See Ehr IL Aff.

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[151] See also Ehr IN Aff. ¶¶ 83-84; Ehr OH Aff. ¶¶ 85-87; Ehr WI Aff. ¶¶ 83-84.

[152] See also Ehr IN Aff. ¶¶ 85-86; Ehr OH Aff. ¶¶ 88-89; Ehr WI Aff. ¶¶ 85-86.

[153] See also Deere IN Aff. ¶¶ 100-102 (IDLC represents about 7 percent of working loops in Indiana); Deere OH Aff. ¶¶ 100-102 (IDLC represents about 2 percent of working loops in Ohio); Deere WI Aff. ¶¶ 100-102 (IDLC represents approximately 3.5 percent of working loops in Wisconsin).

¶ 101 (PM 56-03).[154] The BOC applicants' comprehensive performance data additionally demonstrate that they provision high-quality DS1 loops for the CLECs. Indeed, for the past three months, CLEC customers have experienced the same or fewer troubles within 30 days of installation than have the BOCs' retail customers (PM 59-08). Id. ¶ 105.[155] Likewise, the BOCs' maintenance and repair performance demonstrates that CLEC troubles are generally repaired more quickly than retail troubles. Id. ¶ 107.[156]

**b. The NID and Subloop Unbundling**

In addition to loops themselves, CLECs are able to obtain and use the Network Interface Device ("NID") under terms and conditions approved by the state commissions. See Deere IL Aff. ¶¶ 65-70. CLECs may connect to the customer's inside wire at the BOC applicants' NID at no charge, or they may pay the BOC to perform any NID repairs, upgrades, disconnects, or rearrangements they desire. See id. ¶ 67. The BOC applicants also provide and connect the NID at no additional charge when CLECs order an unbundled loop. See id. ¶ 68. At multiple dwelling units, CLECs can either provide their own NID or connect with the end-user's premises wire via the BOCs' NIDs where necessary. See id. ¶ 69. Working in collaboration with CLECs, and at their request, the BOC applicants have also developed a set of procedures for moving internal NIDs outdoors. See id. ¶ 70 & n.13.

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[154] During the same period, Indiana Bell and Ohio Bell both met more than 97 percent of the customer requested due dates, see Ehr IN Aff. ¶ 89, Ehr OH Aff. ¶ 90 n.49, while Wisconsin Bell met over 98 percent of the customer-requested due dates, see Ehr WI Aff. ¶ 88.

[155] See also Ehr IN Aff. ¶ 90; Ehr OH Aff. ¶ 94; Ehr WI Aff. ¶ 91.

[156] See also Ehr IN Aff. ¶ 92; Ehr OH Aff. ¶ 96; Ehr WI Aff. ¶ 93.

CLECs also can order sub-elements of the local loop from the BOC applicants on an unbundled basis. See id. ¶¶ 81-83; see UNE Remand Order ¶¶ 206-229. Available sub-elements include the twisted copper pair between the main distribution frame and the feeder distribution interface, see, e.g., Deere IL Aff. ¶ 83, and between the feeder distribution interface and the NID, see id.; dark fiber, see id. ¶ 92; and digital loop carrier, see id. ¶ 99.

**c. Basic Loop Performance**

Comprehensive performance measurements confirm the BOC applicants' ability to process unbundled-loop orders, to provision these loops, and to bill for them, all the while ensuring that these transactions flow through the BOCs' systems in a timely and accurate fashion. See generally Ehr IL Aff. ¶ 66 (Illinois Bell met the applicable performance standard for 92.3 percent of the unbundled local loop submeasures in at least two out of the past three months).[157]

The BOC applicants' overall performance in the processing, provisioning, maintenance, and repair of unbundled-loop requests has been easily sufficient to provide CLECs a meaningful opportunity to compete to serve local customers statewide. CLECs report few provisioning problems on unbundled loops (PM 59-05), and those they do report are resolved far more quickly

[157] See also Ehr IN Aff. ¶ 60 (Indiana Bell met the applicable performance standard for 96.1 percent of the unbundled local loop submeasures in at least two out of the past three months); Ehr OH Aff. ¶ 59 (Ohio Bell met the applicable performance standard for 96.2 percent of the unbundled local loop submeasures in at least two out of the past three months); Ehr WI Aff. ¶ 59 (Wisconsin Bell met the applicable performance standard for 94.5% of the unbundled local loop submeasures in at least two out of the past three months).

than retail troubles (PM 67-05), and with fewer instances of repeat trouble reports (PM 69-05). See id. ¶¶ 116-119.[158]

**d. Coordinated and Frame Due Time Conversions ("Hot Cuts")**

The BOC applicants offer CLECs a choice between two different methods of coordinated conversions – the coordinated hot cut process ("CHC") and the frame due time ("FDT") process – allowing CLECs to select the process that best fits their resources and priorities. See Brown/Muhs Joint Aff. ¶¶ 4-5 (App. A, Tab 7). The applicant telephone companies also have ample personnel resources in place to satisfy CLEC demand for CHC or FDT conversions, thus providing CLECs the ability to "choose freely between the CHC and FDT hot cut processes." Kansas/Oklahoma Order ¶ 201; Texas Order ¶ 261.

The BOC applicants' performance in the provisioning of coordinated conversions in their respective states is easily sufficient to provide CLECs a meaningful opportunity to compete. Indeed, their performance has been outstanding. For example, in each of the past three months, Illinois Bell has provisioned more than 98.8 percent of CHC conversions and more than 98.4 percent of FDT conversions within one hour for orders involving fewer than 10 lines. See Ehr IL Aff. ¶ 136.[159] Between March and May 2003, Illinois Bell caused only one premature disconnect out of 2,357 CHC orders that it completed (PM 114-02), and only a single conversion lasted

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[158] See also Ehr IN Aff. ¶¶ 99-101; Ehr OH Aff. ¶¶ 105, 107-108; Ehr WI Aff. ¶¶ 102, 104-105.

[159] The results in the other states have been even better. See Ehr IN Aff. ¶ 119 (100% for both CHC and FDT); Ehr OH Aff. ¶ 125 (96.5% for CHC and 100% for FDT); Ehr WI Aff. ¶ 121 (nearly 99.5% for both CHC and FDT).

more than 30 minutes (PM 115-02.1). See id. ¶¶ 137, 139.[160] During that same time period, Illinois Bell also far surpassed the applicable benchmark for FDT conversions on those same performance measures. See id. ¶¶ 138, 140. In fact, CLECs submitted provisioning trouble reports for a mere 0.08 percent of CHC conversions and 0.00 percent of FDT conversions over the past three months, well within the Commission's five-percent benchmark for outages on conversion. See id. ¶ 141.[161] Finally, CLEC trouble reports submitted on CHC and FDT conversions within seven days of installation were less than 0.94 percent of total conversions completed for the three-month period in each state. See Brown/Muhs Joint Aff. ¶ 20. Because the BOC applicants perform timely coordinated hot cuts with a minimum of outages on conversion and reported troubles within seven days, they provide CLECs a meaningful opportunity to compete.

### E. Checklist Item 5: Unbundled Local Transport

Section 271(c)(2)(B)(v) of the competitive checklist requires the BOC to offer "[l]ocal transport from the trunk side of a wireline local exchange carrier switch unbundled from switching or other services." 47 U.S.C. § 271(c)(2)(B)(v); see also 47 C.F.R. § 51.319(d). Each of the BOC applicants provides access in its state to both dedicated interoffice transport and shared (common) transport consistent with the Commission's unbundling requirements. See,

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[160] The performance in the other states has been similarly strong. See Ehr IN Aff. ¶¶ 120, 122 (out of 748 CHC conversions, Indiana Bell had no premature disconnects and no conversion lasted more than 30 minutes); Ehr OH Aff. ¶¶ 126, 128 (out of 777 CHC conversions, Ohio Bell had only two premature disconnects, and only two conversions lasted more than 30 minutes); Ehr WI Aff. ¶¶ 122, 124 (out of 1,411 CHC conversions, Wisconsin Bell had no premature disconnects, and no conversion lasted more than 30 minutes).

[161] In Indiana, Ohio, and Wisconsin, none of the conversions was affected by provisioning trouble reports in any of the study period months. See Ehr IN Aff. ¶ 124; Ehr OH Aff. ¶ 129; Ehr WI Aff. ¶ 125.

e.g., Deere IL Aff. ¶¶ 120-135; Alexander IL Aff. ¶¶ 89-93. In addition to these standard offerings, a CLEC may obtain new or additional unbundled transport elements through the BFR process. See Deere IL Aff. ¶¶ 71-75. As the ICC found, "[t]he record shows Ameritech Illinois to be compliant with the requirements for provisioning Unbundled Local Transport." ICC Final Order ¶ 1897.[162]

Dedicated Transport. Dedicated transport is available at standard transmission speeds of up to OC-48, and is available between the BOC applicants' and a CLEC's wire centers or switches. See Deere IL Aff. ¶¶ 128-129. Higher speeds will be provided as they are deployed among the BOC applicants' wire centers. See id. ¶ 129. The BOC applicants also permit CLECs to use dark fiber as an unbundled element to provide dedicated transport, in conformance with the UNE Remand Order. See id. ¶¶ 132-133.

The BOC applicants offer a digital cross-connect system functionality in conjunction with the unbundled dedicated transport element with the same functionality that is offered to interexchange carriers or additional functionality as provided in interconnection agreements. See id. ¶ 134. The BOC applicants also provide all technically feasible types of multiplexing and demultiplexing. See id. ¶¶ 130-131.

Shared Transport. The BOC applicants provide access to unbundled shared transport when a CLEC purchases it in conjunction with an Unbundled Local Switching port for the purpose of delivering traffic from/to a CLEC end user. See id. ¶ 122. Unbundled Local

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[162] See also PUCO Final Report and Evaluation at 180 ("we believe that SBC Ohio provides local transport from the trunk-side of a wireline local exchange carrier switch unbundled from switching or other services pursuant to the FCC rules, the PUCO's decisions and policies, and consistent with the requirements of Section 271(c)(2)(B)(v) of the 1996 Act"); PSCW Phase I Final Order at 183 ("[t]he Commission finds that SBC Wisconsin complies with this checklist item").

Switching with Shared Transport permits the CLEC to access the interoffice network for the origination from, and completion to, the associated Unbundled Local Switching port of end-user local traffic to, and from, the BOC applicants' switches or third-party switches. See id. ¶ 123. All CLEC local traffic between the applicant telephone companies' switches will use Shared Transport and all local CLEC traffic to non-BOC switches will use the transit function of Shared Transport (which is known as "Shared Transport-Transit"). See id. ¶ 124. All interexchange traffic will be routed to the interLATA or intraLATA toll interexchange carrier, as appropriate, selected for that ULS port. See id. The BOC applicants also permit CLECs that purchase Unbundled Local Switching to use Shared Transport (using a product known as ULS-ST) to route intraLATA toll traffic pursuant to tariff, as applicable, and under applicable interconnection agreements. See Alexander IL Aff. ¶¶ 91-93.[163]

The BOC applicants will use existing routing tables contained in their switches to provide Unbundled Local Switching with Shared Transport. The CLEC is not required to purchase a trunk port or associated equipment for the use of this UNE. See Deere IL Aff. ¶ 125.

Performance. Available data confirm that CLECs have nondiscriminatory access to dedicated and shared transport elements. For the period March through May 2003, Illinois Bell, for example, achieved the applicable performance standards for all of the applicable measurements for which sufficient data were reported. See Ehr IL Aff. ¶¶ 144-147 & Attach. H.[164]

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[163] See also Alexander IN Aff. ¶¶ 90-92; Alexander OH Aff. ¶¶ 90-92; Alexander WI Aff. ¶¶ 90-92.

[164] These same results were achieved in Indiana, Ohio, and Wisconsin. See Ehr IN Aff. ¶¶ 126-128 & Attach. H; Ehr OH Aff. ¶¶ 131-133 & Attach. H; Ehr WI Aff. ¶¶ 127-129 & Attach. H.