the requirement to provide interconnection on terms and conditions that are "just, reasonable, and nondiscriminatory" means that an incumbent LEC must provide interconnection to a competitor in a manner no less efficient than the way in which the incumbent LEC provides the comparable function to its own retail operations.[126] The Commission's rules interpret this obligation to include, among other things, the incumbent LEC's installation time for interconnection service[127] and its provisioning of two-way trunking arrangements.[128] Similarly, repair time for troubles affecting interconnection trunks is useful for determining whether a BOC provides interconnection service under "terms and conditions that are no less favorable than the terms and conditions" the BOC provides to its own retail operations.[129]

66. Competing carriers may also choose any method of technically feasible interconnection at a particular point on the incumbent LEC's network.[130] Incumbent LEC provision of interconnection trunking is one common means of interconnection. Technically feasible methods also include, but are not limited to, physical and virtual collocation and meet point arrangements.[131] In the *Advanced Services First Report and Order*, the Commission revised its collocation rules to require incumbent LECs to include shared cage and cageless collocation arrangements as part of their physical collocation offerings. The provision of collocation is an essential prerequisite to demonstrating compliance with item 1 of the competitive checklist.[132] To show compliance with its collocation obligations, a BOC must have processes and procedures in place to ensure that all applicable collocation arrangements are available on terms and conditions that are "just, reasonable, and nondiscriminatory" in accordance with section 251(c)(6) and our implementing rules.[133] Data showing the quality of procedures for processing applications for collocation space, as well as the timeliness and efficiency of provisioning collocation space, helps the Commission evaluate a BOC's compliance with its collocation obligations.[134]

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[126] *Local Competition First Report and Order*, 11 FCC Rcd at 15612; *see also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20642.

[127] 47 C.F.R. § 51.305(a)(5).

[128] Our rules require an incumbent LEC to provide two-way trunking upon request, wherever two-way trunking arrangements are technically feasible. 47 C.F.R. § 51.305(f); *see also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20642; *Local Competition First Report and Order*, 11 FCC Rcd 15612-13.

[129] 47 C.F.R. § 51.305(a)(5).

[130] *Local Competition First Report and Order*, 11 FCC Rcd at 15779; *see Second BellSouth Louisiana Order*, 13 FCC Rcd at 20640-41.

[131] 47 C.F.R. § 51.321(b); *Local Competition First Report and Order*, 11 FCC Rcd at 15779-82; *see also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20640-41.

[132] 47 U.S.C. § 251(c)(6) (requiring incumbent LECs to provide physical collocation); *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20640-41; *BellSouth South Carolina Order*, 13 FCC Rcd at 649-50.

[133] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20640-41; *BellSouth Carolina Order*, 13 FCC Rcd at 649-51.

[134] *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20640-41.

b. Discussion

67. We are persuaded, for the reasons discussed below, that Bell Atlantic demonstrates that, in New York, it provides equal-in-quality interconnection on terms and conditions that are just, reasonable, and nondiscriminatory in accordance with the requirements of section 251(c)(2) and 252(d)(1), as specified in section 271. We further find that Bell Atlantic meets its burden of proof that it designs its interconnection facilities to meet "the same technical criteria and service standards" that are used for the interoffice trunks within its own network, and that Bell Atlantic makes interconnection available at any technically feasible point. Finally, we find that Bell Atlantic demonstrates that it is providing collocation in New York in accordance with the Commission's rules.

(i) Interconnection Trunking

68. Based on our review of the record, we are persuaded that Bell Atlantic provides competing carriers with interconnection trunking in New York that is equal-in-quality to the interconnection Bell Atlantic provides to its own retail operations, and on terms and conditions that are just, reasonable, and nondiscriminatory.[135] Bell Atlantic makes interconnection available in New York through interconnection agreements and through a state approved tariff.[136] Bell Atlantic receives orders for interconnection trunks through the Access Service Request (ASR) process, and accepts ASRs through an electronic application-to-application interface, its Internet Web Graphical User Interface (GUI), and manual orders.[137] In addition, Bell Atlantic provides performance data to measure the quality of interconnection service provided to competing carriers.[138]

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[135] For some interconnection performance metrics, the New York Commission established as a parity standard the quality of interconnection Bell Atlantic provides to interexchange carriers. *See* Bell Atlantic Dowell/Canny Decl. at para. 56 (stating that "the provisioning of [competitive LEC] trunks is most like the provisioning of trunks for interexchange carriers"). Other performance metrics use Bell Atlantic's retail operations as the standard by which to judge Bell Atlantic's service quality. *See* Bell Atlantic Dowell/Canny Decl. Attach. B at para. 60 (stating the Bell Atlantic's common trunk groups are used to measure the quality of interconnection provided to competitive LECs).

[136] Bell Atlantic Application App. F (providing interconnection agreements between Bell Atlantic and competing carriers); New York Commission Tariff No. 914 (Bell Atlantic Application App. H, Tab 1).

[137] Bell Atlantic Miller/Jordan Decl. at para. 37; *see also* Bell Atlantic, CLEC HANDBOOK, Vol. II, § 4.4, 23-27. Bell Atlantic refers to paper orders received by facsimile and mail as "manual" orders.

[138] Bell Atlantic Dowell/Canny Decl. at paras. 10-96 and Attach. D (providing performance data for October 1998 to August 1999); *see also Order Adopting Inter-Carrier Service Quality Guidelines*, Case 97-C-0139 (NYPSC Feb. 16, 1999) (Bell Atlantic Application App. E, Tab 61) (*NYPSC Guidelines Order*). Bell Atlantic provides two types of data to show its interconnection performance. First, Bell Atlantic submits its New York "Carrier-to-Carrier" performance data. The New York Carrier-to-Carrier performance data measures the quality of ordering and provisioning interconnection trunks, maintaining interconnection trunks, and the performance of interconnection trunks after installation (*i.e.*, trunk group blockage). *See* Bell Atlantic Dowell/Canny Decl., Attach. D. The New York Carrier-to-Carrier Reports also contain information about provisioning of collocation space.

Second, Bell Atlantic submits additional data, referred to as its "Part M" data, to show the quality of its provisioning for interconnection trunks. Bell Atlantic's Part M data disaggregates its interconnection provisioning performance into five distinct categories: (1) forecasted augmentations of up to 192 trunks to existing trunk groups;

69. In prior section 271 applications, we relied heavily on trunk group blockage data to evaluate a BOC's interconnection quality.[139] Bell Atlantic's performance data show that, in the months leading up to its application, Bell Atlantic provided interconnection using the level of service that is received in its own network. Specifically, Bell Atlantic's performance data show that, for the three months immediately preceding its section 271 application, interconnection trunk groups provided to competing carriers experienced blockage less frequently than Bell Atlantic's own retail trunk groups.[140] The comments of the New York Commission, Intermedia, and Nextlink corroborate Bell Atlantic's performance data, and further indicate that Bell Atlantic provides interconnection equal-in-quality to the interconnection provided to Bell Atlantic's own retail operations.[141] As a final matter, we note that the failure of any commenter to raise trunk group blockage as an issue further supports our conclusion that Bell Atlantic adequately designs its interconnection facilities to ensure calls are completed.

70. We find that other aspects of Bell Atlantic's data further indicate that Bell Atlantic is providing nondiscriminatory interconnection trunking in New York. Bell Atlantic's performance data show that, for July and August 1999, Bell Atlantic rarely missed installation appointments for provisioning interconnection trunks for competitors. In fact, Bell Atlantic missed installation appointments for local exchange competitors less often than it did for interexchange carriers in July and August, and we note that Bell Atlantic's data show that Bell

(2) forecasted augmentations of 192 to 384 trunks to existing trunk groups; (3) forecasted projects, new orders, and augmentations of more than 384 trunks; (4) unforecasted orders for instances in which Bell Atlantic has facilities available; and (5) unforecasted orders for situations in which Bell Atlantic does not have facilities available. These five categories contain additional information about "customer not ready" situations, i.e., when a competitive LEC is unable to receive an interconnection trunk at the time Bell Atlantic is ready to deliver the circuit. *See* Bell Atlantic Dowell/Canny Decl. at para. 18 & Attach. E.

[139] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20649-20650; *Ameritech Michigan Order*, 12 FCC Rcd at 20669-74.

[140] In its application, Bell Atlantic provides data concerning the performance of "dedicated final trunk groups," which are interconnection trunks connecting competitive LECs with Bell Atlantic's network. Final trunk groups provide the last available path for overflow traffic and may also receive first-route traffic for which there is no alternate route. Bell Atlantic also provides data concerning the performance of "common trunk groups," which are trunk groups that carry both local traffic from Bell Atlantic and traffic for interexchange carriers between Bell Atlantic end offices and access tandems. *See* Bell Atlantic Dowell/Canny Decl., Attach. D at 60. Bell Atlantic's performance reports show that, in June 1999, competitive LECs experienced blockage on 1.72 percent of their dedicated final trunk groups, while Bell Atlantic experienced blockage on 2.55 percent of its common trunk groups; in July 1999, competitive LECs experienced blockage on 1.70 percent of their dedicated final trunk groups, while Bell Atlantic experienced blockage on 2.04 percent of its common trunk groups; in August 1999, competitive LECs experienced blockage on 1.13 percent of their dedicated final trunk groups, while Bell Atlantic experienced blockage on 1.53 percent of its common trunk groups. *See* Bell Atlantic Dowell/Canny Decl. Attach. D at 83, 95, 107 (metric NP-1-01). Statistical analysis conducted on Bell Atlantic's trunk blockage performance data for June, July, and August 1999 shows that any differences in performance between dedicated final trunk groups, i.e., interconnection trunks provided to competitive LECs, and common trunk groups, i.e., trunk groups connecting Bell Atlantic end offices with its access tandems, are not statistically significant.

[141] New York Commission Comments at 19; Intermedia Comments at 5; Nextlink Comments at 2-3; Cablevision Comments at 2; Bell Atlantic Lacouture/Troy Reply Decl. at para. 8; New York Commission Reply at 5-7.

Atlantic provided comparable installation quality through September.[142]

71. We have examined the issues pointed out by the Department of Justice, Teligent, e.spire, Allegiance, and others regarding Bell Atlantic's provisioning of new and large orders of interconnection trunks.[143] These parties generally argue that requesting carriers have experienced unreasonable delays in Bell Atlantic provisioning of new and large orders of interconnection trunks. In its application, Bell Atlantic submitted performance data that showed a statistically significant difference between the provisioning of trunks for competitive LECs and for interexchange carriers as reflected in some performance measurements related to provisioning large orders of interconnection trunks.[144] After further analysis and discussion with the Commission, Bell Atlantic identified significant errors in its New York Carrier-to-Carrier Performance Reports, and submitted revised data.[145] In addition, Bell Atlantic submitted

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[142] Bell Atlantic defines "missed appointments" as "the percent of orders completed after the commitment date." *See* Bell Atlantic Dowell/Canny Decl., Attach. B at 40. Pursuant to the New York Commission's regulations, Bell Atlantic's performance for competitive LECs is measured against its performance for interexchange carriers. *Id.* Bell Atlantic's performance reports show that, in July 1999, Bell Atlantic missed 1.05 percent of its installation appointments for competitive LECs, while Bell Atlantic missed 2.57 percent of its installation appointments for interexchange carriers; in August 1999, Bell Atlantic missed 2.01 percent of its installation appointments for competitive LECs, while Bell Atlantic missed 2.20 percent of its installation appointments for interexchange carriers; in September 1999, Bell Atlantic missed 1.71 percent of its installation appointments for competitive LECs, while Bell Atlantic missed 1.59 percent of its installation appointments for interexchange carriers. *See* Bell Atlantic Dowell/Canny Decl. Attach. D at 95, 107 (metric PR-4-01); Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 12 (metric PR-4-01). We note that the superior performance to competitors is statistically significant for the months of July and August.

[143] Department of Justice Evaluation at 10-11 n.20; *see* Teligent Comments at 10-13; Teligent Sullivan Decl. at paras. 2-9; Teligent Lissemore Decl. at paras. 2-9; e.spire Comments at 16-20; Allegiance Comments at 10-12; ALTS Comments at 40-42; OmniPoint Comments at 7-13; Prism Comments at 20; ICG Comments at 2-7 (describing delays in the negotiation process); Focal Comments at 3-9; *see also* Letter from Ross A. Buntrock, Kelley Drye & Warren, LLP, Counsel for e.spire, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295 (filed Nov. 3, 1999); Letter from Ross A. Buntrock, Kelley Drye & Warren, LLP, Counsel for e.spire, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295 (filed Nov. 9, 1999); Letter from Ross A. Buntrock, Kelley Drye & Warren, LLP, Counsel for e.spire, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295 (filed Nov. 22, 1999); Letter from Edward B. Krachmer, Regulatory Counsel, Teligent, Inc., to Anthony Dale, Attorney, Federal Communications Commission, CC Docket No. 99-295 (filed Nov. 19, 1999). By "large orders," we mean orders for 193 or more interconnection trunks. Bell Atlantic treats orders for new installations of interconnection trunks, regardless of the size, in the same manner it treats large orders. *See* Bell Atlantic Dowell/Canny Decl. Attach. E.

[144] The New York Carrier-to-Carrier Performance Standards and Reports submitted in Bell Atlantic's application showed that, for August and September, Bell Atlantic had problems with some aspects of its provisioning process for new and large orders of interconnection trunks. In addition, the statistical test used to evaluate Bell Atlantic's data showed that the different results were statistically significant. *See* Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 107 (metric PR-1-09); Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 12 (metric PR-1-09).

[145] Letter from Dee May, Directory, Federal Regulatory Affairs, Bell Atlantic Corp., to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295 at 1 (filed Dec. 7, 1999) (Bell Atlantic Dec. 7 *Ex Parte* Letter) (submitting revised performance data). Bell Atlantic erroneously reported provisioning of large orders of interconnection trunks provided to interexchange carriers, which is the standard established by the New York Commission for assessing the quality of provisioning interconnection trunks to competitive LECs in New

supplementary data to show its provisioning performance for interconnection trunks provided to both competitive LECs and interexchange carriers.[146] Our review of Bell Atlantic's supplementary data shows that, although its provisioning performance has deteriorated since January 1999, Bell Atlantic's provisioning of interconnection trunks for competitive LECs is comparable to its performance for interexchange carriers, which indicates that Bell Atlantic is meeting its equal-in-quality obligations.[147] We therefore conclude that, while the claims of e.spire and others may very well be true, evidence of such provisioning delays does not preclude a showing of compliance for section 271 purposes, so long as the equal-in-quality requirement is met.

72. We conclude that our decision that Bell Atlantic meets checklist item 1 rests upon its demonstration that trunk group blockage for competitors is lower than for Bell Atlantic's retail operations, Bell Atlantic's rate of missed installation appointments is lower for service to local competitors than for service to interexchange carriers, and there is no significant difference between its provisioning of interconnection trunks to local competitors and to interexchange carriers. For the benefit of future section 271 applications, and for purposes of evaluating Bell Atlantic's continued compliance with section 271(c)(2)(B)(I), we emphasize that our conclusion is based on a weighing of the various factors discussed in the foregoing paragraphs. A different combination of factors in another case might well lead us to conclude that, on the whole, competitive LECs do not receive equal-in-quality interconnection on just, reasonable, and nondiscriminatory terms and conditions.

York. The effect of Bell Atlantic's error was to show large statistically significant differences between the provisioning quality received by competitive LECs and by interexchange carriers.

[146] The New York Commission evaluates Bell Atlantic's provisioning performance by comparing Bell Atlantic's provisioning of interconnection trunks for interexchange carriers to its provisioning of interconnection trunks for competitive LECs. Section 251(c) requires incumbent LECs to provide interconnetion "that is at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection." 47 U.S.C. § 251(c)(2)(C).

[147] Bell Atlantic's provisioning time for "projects" increased 81 percent, from 23.38 days in January to 42.33 days in September. For customer-not-ready situations (CNR), Bell Atlantic's provisioning time increased 69.8 percent, from 27.81 days in January to 47.24 days in September. Together, these two categories comprise more than 90 percent of all large orders for interconnection trunks. *See* Letter from Dee May, Directory, Federal Regulatory Affairs, Bell Atlantic Corp., to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295 (filed Dec. 1, 1999) (Bell Atlantic Dec. 1 *Ex Parte* Letter) (providing supplementary Part M data for September 1999).

Despite the increased delays in provisioning interconnection trunks, Bell Atlantic's supplementary data show comparable provisioning quality provided to both competitive LECs and to interexchange carriers. Specifically, Bell Atlantic's supplementary Part M data show that, in June 1999, Bell Atlantic installed large orders of interconnection trunks in 27 days for competitive LECs and in 43.6 days for interexchange carriers; in July 1999, Bell Atlantic installed large orders of interconnection trunks in 29.8 days for competitive LECs and in 43.7 days for interexchange carriers; in August 1999, Bell Atlantic installed large orders of interconnection trunks in 30.3 days for competitive LECs and in 43.6 days for interexchange carriers; in September 1999, Bell Atlantic installed large orders of interconnection trunks in 42.3 days for competitive LECs and in 57.5 days for interexchange carriers. *See* Bell Atlantic Dec. 1 *Ex Parte* Letter; Bell Atlantic Dec. 7 *Ex Parte* Letter at Enclosures 1 & 2.

(ii) Collocation

73. Bell Atlantic has demonstrated that its collocation offering in New York satisfies the requirements of sections 271 and 251 of the Act. Bell Atlantic provides physical and virtual collocation through a state-approved tariff.[148] In its application, Bell Atlantic indicates that shared, cageless, and adjacent collocation options are available in New York, and that it has taken other steps to implement the collocation requirements contained in the *Advanced Services First Report and Order*.[149] In addition, Bell Atlantic demonstrates that it has deployed methods and procedures designed to ensure that its business units implement the Commission's collocation rules, including the designation of employees dedicated to providing collocation to competitive LECs, standard operating procedures related to collocation, and its CLEC HANDBOOK, which informs collocators of their rights and responsibilities.[150] A number of commenters, including the New York Commission and several competitive LECs, agree with Bell Atlantic that its collocation offerings have been revised to reflect the requirements specified in the *Advanced Services First Report and Order*.[151]

74. We disagree with the contentions of ALTS that the New York state tariff, and the New York Commission tariff review process, do not adequately ensure that Bell Atlantic's collocation offerings are consistent with section 251 and the Commission's rules.[152] Specifically, ALTS contends that terms in the New York state tariff delay the provisioning of collocation space and impose restrictions on methods of interconnection and access to collocation.[153] In addition, ALTS argues that the New York tariff does not clarify Bell Atlantic's allocation of collocation costs.[154] After reviewing the record, we are persuaded by the New York Commission that Bell Atlantic is meeting its collocation obligations.[155] Bell Atlantic revised its tariffed

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[148] Bell Atlantic Application at 13-14; *see* NYPSC Tariff No. 914 at § 5 (Bell Atlantic Application App. H., Tab 1) (*NYPSC Interconnection Tariff*) (addressing collocation).

[149] Bell Atlantic Application at 13-14; Bell Atlantic Lacouture/Troy Decl. at paras. 35-43; New York Commission Comments at 24-25.

[150] Bell Atlantic Lacouture/Troy Decl. at para. 31 (noting that Bell Atlantic assigned over 80 employees to manage the collocation process); *see* Bell Atlantic Corp., CLEC HANDBOOK, Vol. IIII, § 4.

[151] New York Commission Comments at 24 (citing *Order Directing Tariff Revisions*, Cases 99-C-0715 *et al.* (NYPSC Aug. 31, 1999) (directing Bell Atlantic to revise its collocation offerings in a manner consistent with the *Advanced Services First Report and Order*) (Bell Atlantic Application App. I, Tab 19)); Intermedia Comments at 3; Allegiance Comments at 9.

[152] ALTS Comments at 49-64. *But see* Bell Atlantic Reply at 23-24.

[153] ALTS Comments at 50-57, 59-62.

[154] *Id.* at 62-64.

[155] New York Commission Comments at 20-25; New York Commission Reply at 8-9. For our evaluation of collocation pricing, *see infra* Section V.A.2.

collocation offering to make it consistent with our *Advanced Services First Report and Order*.[156] Bell Atlantic's collocation tariff underwent an active and thorough review at the state level. The New York Commission addressed the provisioning of collocation space and established standard provisioning intervals for caged, cageless, and virtual collocation.[157]

75. Our review of Bell Atlantic's collocation performance data indicates that Bell Atlantic responds to applications for collocation space in a timely manner. Between May 1999 and August 1999, Bell Atlantic processed 667 requests for collocation space and almost always responded to such requests within the 8-day standard set by the New York Commission.[158] Although we are concerned that Bell Atlantic's performance data shows recent failures to meet the 76-day provisioning interval established by the New York Commission for physical collocation, our finding of checklist compliance is predicated on Bell Atlantic's demonstration that 95% of the time it provisions collocation within the 76-day provisioning interval established by the New York Commission.[159] Should these recent failures lead to a more widespread deterioration in provisioning collocation, however, enforcement action pursuant to section 271(d)(6) may be appropriate.

(iii) Technically Feasible Points of Interconnection

76. We conclude that Bell Atlantic provides interconnection at all technically feasible points, as required by our rules, and therefore demonstrates checklist compliance. Bell Atlantic asserts that it makes interconnection available at all technically feasible points, including trunk-side at Bell Atlantic end offices and access tandems and line-side at Bell Atlantic end offices.[160] Bell Atlantic demonstrates that it has an approved state tariff that spells out readily available points of interconnection, and provides a process for requesting interconnection at additional, technically-feasible points.[161] We disagree with Sprint that its experience negotiating

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[156] Bell Atlantic Application at 13-14 (citing Bell Atlantic Lacouture/Troy Decl. at paras. 27-28, 31-32, 41-50); *see also Order Directing Tariff Revisions*, Cases 99-C-0715 & 95-C-0657 (NYPSC Aug. 31, 1999) (located in Bell Atlantic Application at App. I, Tab 19).

[157] New York Commission Comments at 24-25; *see* Bell Atlantic, CLEC HANDBOOK, Vol. III, § 4, 40 (Mar. 1999) (discussing collocation provisioning intervals). Bell Atlantic provides a standard installation interval of 76 days for physical and cageless collocation in New York, and 105 days for virtual collocation. *See Order Directing Tariff Revisions,* Cases 99-C-0715 & 95-C-0657 (NYPSC Aug. 31, 1999) (Bell Atlantic Application App. I, Tab 19).

[158] *See* Bell Atlantic Dowell/Canny Decl. Attach. D at 71, 83, 95, 107 (metric NP-2-01) (listing June, July, and August 1999 performance for metric NP-2-01 as 92 percent, 100 percent, 99 percent respectively); *see also* Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 12 (listing September 1999 performance for metric NP-2-01 as 99 percent).

[159] *See* Bell Atlantic Dowell/Canny Decl. Attach. D at (metric NP-2-05); Department of Justice Evaluation at Exhibit 6, 12; New York Commission Comments at 24-25; Allegiance Comments at 9.

[160] Bell Atlantic Lacouture/Troy Decl. at para. 7.

[161] Bell Atlantic Lacouture/Troy Decl. at para. 7; Bell Atlantic Application App. H, Tab 1 (submitting New York state tariff); *see also NYPSC Interceonnection Tariff* § 4.1.2-4.1.3 (specifying points of interconnection on BA-NY network).

interconnection agreements with Bell Atlantic conclusively demonstrates that Bell Atlantic has violated its obligation to permit competing carriers to select interconnection points.[162] Sprint's experience does not constitute evidence of systematic failures by Bell Atlantic to provide interconnection at all technically feasible points. Bell Atlantic points out that a state-approved process enables competitive LECs to obtain interconnection at technically feasible points not specified in the tariff, and the comments of the New York Commission support this statement.[163] We agree with the New York Commission that the pending arbitration between Sprint and Bell Atlantic is the appropriate forum for addressing this issue.[164] As a final matter, we conclude that Bell Atlantic has demonstrated that it provides two-way trunking in accordance with our rules,[165] and no commenter presents credible information to show otherwise.[166]

2. Pricing of Collocation

a. Background

77. In order to comply with its collocation obligations, a BOC must make physical and virtual collocation arrangements available at rates that are "just, reasonable, and nondiscriminatory" in accordance with section 251(c)(6) of the Act and our rules implementing that section.[167] Although the Commission's pricing rules were stayed by the U.S. Court of Appeals for the Eighth Circuit in 1996,[168] pricing authority was restored by the Supreme Court on January 25, 1999.[169] In reaching its decision, the Court acknowledged that section 201(b) "explicitly grants the FCC jurisdiction to make rules governing matters to which the 1996 Act applies."[170] Furthermore, the Court determined that section 251(d) also provides evidence of an express jurisdictional grant by requiring that "the Commission [shall] complete all actions necessary to establish regulations to implement the requirements of this section."[171] The Court

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[162] Sprint Comments at 7.

[163] New York Commission Comments at 18-20; Bell Atlantic Reply at 22-23; Bell Atlantic Lacouture/Troy Reply Decl. at paras. 30-33.

[164] New York Commission Reply at 7; Bell Atlantic Reply at 23; *see* Petition of Sprint Communications Co., *Arbitration of Interconnection Rates, Terms, Conditions, and Related Arrangements With Bell Atlantic-New York*, Case 99-C-1389 (filed with NYPSC Oct. 11, 1999).

[165] Bell Atlantic Lacouture/Troy Decl. at para. 9 (stating that Bell Atlantic is providing roughly 65,000 two-way trunks to competing carriers); *see* New York Commission Comments at 17, 19; *see* Bell Atlantic Application App. C, Vol. 28, Tab 403 at 12-13 (Bell Atlantic's Pre-Filing Statement addressing two-way trunking); *see also* Intermedia Comments at 4-5; Cablevision Comments at 2 (citing the Bell Atlantic's Pre-Filing Statement).

[166] *See e.g.*, ALTS Comments at 44.

[167] 47 U.S.C. § 251(c)(6).

[168] *Iowa Utils. Bd. v. FCC*, 120 F.3d 753, 800, 804, 805-06 (8th Cir. 1997), aff'd in part and remanded, *AT&T Corp. v. Iowa Utils. Bd.*, 119 S.Ct. 721 (1999).

[169] *AT&T Corp. v. Iowa Utils. Bd.*, 119 S.Ct. 721 (1999).

[170] *Id.* at 730.

also held that the pricing provisions implemented under the Commission's rulemaking authority do not inhibit the establishment of rates by the States.[172] The Court concluded that the Commission has jurisdiction to design a pricing methodology to facilitate local competition under the 1996 Act, including pricing for interconnection and unbundled access, as "it is the States that will apply those standards and implement that methodology, determining the concrete result."[173]

b. Discussion

78. Based on the evidence in the record, we find that Bell Atlantic offers cageless physical collocation to those LECs that request it at just, reasonable, and nondiscriminatory prices, in compliance with checklist item 1.[174] Commenters raised only two issues related to collocation prices, and, as discussed below, we find that these commenters misinterpreted Bell Atlantic's tariffs and their concerns are unfounded. Bell Atlantic asserts that its collocation prices are consistent with the Act and Commission rules.[175] The New York Commission concludes that Bell Atlantic currently provides collocation under approved interconnection agreements and tariffs, consistent with FCC and New York Commission orders.[176] We agree with the New York Commission that the issues raised by commenters with respect to checklist item 1 "do not preclude a finding that Bell Atlantic-NY is in compliance with this checklist item."[177] The Department of Justice did not comment on Bell Atlantic's collocation prices.

79. We disagree with TRA's assertion that Bell Atlantic's collocation prices are discriminatory because they burden competing carriers with "unnecessary security measures and costs."[178] These rates are not discriminatory because Bell Atlantic does not impose the costs of security measures. In Phase Three of its network elements rate case, the New York Commission held that Bell Atlantic may not recover any costs for cageless collocation security measures.[179] Rather, it held that Bell Atlantic must bear such costs itself.[180] Bell Atlantic later filed cageless

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[171] *Id.* at 732.

[172] *Id.*

[173] *Id.*

[174] *See NYPSC Interconnection Tariff* at § 5.1.17(A)(B) and 10.5.1(A)(B); *see also* New York Commission Comments at 24; New York Commission Reply at 9; Bell Atlantic Reply at 24, n.25. In the New York Commission rate case, Bell Atlantic filed under the name of "New York Telephone d/b/a/ Bell Atlantic-New York." *See, e.g., Phase 3 Opinion and Order*, Case Nos. 95-C-0657, 94-C-0095, 91-C-1174, and 96-C-0036 (NYPSC Feb. 22, 1999) (Bell Atlantic Application App. H, Tab 1) (*NYPSC Phase 3 Order*) at 1.

[175] Bell Atlantic Reply at 23-24.

[176] New York Commission Comments at 24.

[177] New York Commission Reply at 9.

[178] TRA Comments at 21.

[179] *NYPSC Phase 3 Order* at 73.

[180] *Id.*

security rates with the New York Commission, but these rates have not yet been approved and are not in effect.[181] Despite the fact that competitors complained about the lack of set rates for cageless collocation security measures, the New York Commission did not impose temporary rates for cageless collocation security measures, holding instead that this cost and Bell Atlantic's associated cost justification will be considered in Phase Four of the New York Commission's unbundled network elements rate case.[182] In its reply comments to Bell Atlantic's 271 application proceeding, the New York Commission noted that Bell Atlantic had a "placeholder" in its cageless collocation tariff for its security rate but that no rates are being imposed.[183] We therefore find that TRA has misinterpreted Bell Atlantic's tariff and that its claim that Bell Atlantic's security rates are discriminatory is unfounded.

80. We also disagree with ALTS' claim[184] that Bell Atlantic does not meet the Commission's requirements that it allocate its space preparation and related up-front costs among competing carriers on a pro-rata basis.[185] In order to fulfill its obligation to provide nondiscriminatory access to interconnection, an incumbent LEC must "allocate space preparation, security measures, and other collocation charges on a pro-rated basis so the first collocator in a particular incumbent premises will not be responsible for the entire cost of site preparation."[186] The New York Commission reviewed Bell Atlantic's interconnection tariff and rejected Bell Atlantic's initial proposal that it be allowed to charge the initial collocator the entire cost of space preparation.[187] The New York Commission held that "it seems unreasonable to require the initial collocator to bear, up-front, the entire cost of protecting [Bell Atlantic] against the possibility that its costs may go unrecovered."[188] The New York Commission further held that no reason existed to single out these costs for up-front recovery.[189] The New York Commission instead estimated room construction costs and other up-front payments on a TELRIC basis and provided for their recovery through recurring charges.[190] The New York Commission calculated on the basis of reasonable estimates of the likely number of users, thereby "obviating any possibility that the full cost would be imposed on the first [competing carrier]."[191] Bell Atlantic has complied with this requirement in its tariff.[192] Based on the

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[181] *Order Directing Tariff Revisions*, Case Nos. 99-C-0715 and 95-C-0657 (NYPSC Aug. 31, 1999) (Bell Atlantic Application App. I, Vol. 3, Tab 19) (*NYPSC Collocation Order*) at 7.

[182] *Id.* at 7-8

[183] New York Commission Reply at 8-9.

[184] ALTS Comments at 63.

[185] *See NYPSC Interconnection Tariff* at §§ 5.1.17(A)(B) & 10.5.1.(A)(B); *see also* Bell Atlantic Reply at 24 n.25.

[186] *Advanced Services First Report and Order*, 14 FCC Rcd at 4789.

[187] *NYPSC Phase 3 Order* at 72.

[188] *Id.*

[189] *Id.*

[190] New York Commission Reply at 49-50; *see also NYPSC Phase 3 Order* at 72.

[191] *Id.*

record presented to us, we find that the New York Commission has set prices for a competing carriers' up-front site preparation costs at TELRIC-based costs, and ensured that the initial competitor to collocate will not bear the complete up-front collocation costs. Therefore, we conclude that this claim is without merit.

B. Checklist Item 2 – Unbundled Network Elements

81. The nondiscriminatory provision of operations support systems (OSS) and the ability of competing carriers to combine unbundled network elements are integral aspects of the BOC's obligation to provide access to unbundled network elements as required by checklist item 2. In this section, we first outline section 271's nondiscrimination standard and our general approach to analyzing the adequacy of Bell Atlantic's OSS. We then briefly describe the critically important independent third-party testing conducted by KPMG and Hewlett Packard under the supervision of the New York Commission. Next, we describe briefly the systems, databases, and personnel on which Bell Atlantic relies in support of its claim that it provides access to OSS on a nondiscriminatory basis. We then address Bell Atlantic's change management process and the technical assistance that Bell Atlantic offers to competing carriers seeking to use its OSS. We also analyze Bell Atlantic's provision of access to the critical OSS functions of pre-ordering, ordering, provisioning, maintenance and repair, and billing. Finally, we analyze in this section whether Bell Atlantic provides access to unbundled network elements in a manner that allows competing carriers to combine such elements.

1. Operations Support Systems

82. As discussed below, we conclude that Bell Atlantic demonstrates that it provides requesting carriers nondiscriminatory access to OSS functions. Specifically, we find that Bell Atlantic provides a change management process and technical assistance that affords competing carriers a meaningful opportunity to compete. We also find that Bell Atlantic offers nondiscriminatory access to its pre-ordering, ordering, provisioning, maintenance and repair, and billing OSS functions.[193] In reaching these conclusions, we acknowledge that we differ from the evaluation of the Department of Justice in certain material respects. Although we have accorded substantial weight to the Department's views as required by section 271, the statute prohibits us from giving the Department's views preclusive weight.[194] With respect to access to OSS functions, we differ from the Department primarily in instances where we assess the totality of the evidence differently or where we have a greater amount of information available to inform our conclusions.

a. Background

83. Incumbent LECs use a variety of systems, databases, and personnel (collectively

[192] *See NYPSC Interconnection Tariff* at §§ 5.1.17(A)(B) & 10.5.1.(A)(B); *see also* Bell Atlantic Reply at 24 n.25.

[193] We note, however, that certain OSS issues that relate to specific checklist items, such as the OSS associated with provisioning unbundled loops, are addressed in the sections that pertain to the individual checklist items.

[194] *See supra* Section II.A.

referred to as OSS) to provide service to their customers.[195] The Commission consistently has found that nondiscriminatory access to OSS is a prerequisite to the development of meaningful local competition.[196] For example, new entrants must have access to the functions performed by the incumbent's OSS in order to formulate and place orders for network elements or resale services, to install service to their customers, to maintain and repair network facilities, and to bill customers.[197] The Commission has determined that without nondiscriminatory access to the BOC's OSS, a competing carrier "will be severely disadvantaged, if not precluded altogether, from fairly competing" in the local exchange market.[198]

84. Section 271 requires the Commission to determine whether a BOC offers nondiscriminatory access to OSS functions. Section 271(c)(2)(B)(ii) requires a BOC to provide "nondiscriminatory access to network elements in accordance with the requirements of sections 251(c)(3) and 252(d)(1)."[199] The Commission has determined that access to OSS functions falls squarely within an incumbent LEC's duty under section 251(c)(3) to provide unbundled network elements under terms and conditions that are nondiscriminatory and just and reasonable, and its duty under section 251(c)(4) to offer resale services without imposing any limitations or conditions that are discriminatory or unreasonable.[200] The Commission must therefore examine a BOC's OSS performance to evaluate compliance with section 271(c)(2)(B)(ii) and (xiv).[201] In addition, the Commission has also concluded that the duty to provide nondiscriminatory access to OSS functions is embodied in other terms of the competitive checklist as well.[202] Consistent with prior orders, we examine Bell Atlantic's OSS performance directly under checklist items 2

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195 *See BellSouth South Carolina Order*, 13 FCC Rcd at 585; *Ameritech Michigan Order*, 12 FCC Rcd at 20613.

196 *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20653; *BellSouth South Carolina Order*, 13 FCC Rcd at 547-48, 585; *Ameritech Michigan Order*, 12 FCC Rcd at 20613-14.

197 *See BellSouth South Carolina Order*, 13 FCC Rcd at 548; *Ameritech Michigan Order*, 12 FCC Rcd at 20613.

198 *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20652; *BellSouth South Carolina Order*, 13 FCC Rcd at 585; *First BellSouth Louisiana Order*, 13 FCC Rcd at 6258.

199 47 U.S.C. § 271(c)(2)(B)(ii).

200 *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20653-54; *BellSouth South Carolina Order*, 13 FCC Rcd at 586; *Ameritech Michigan Order*, 12 FCC Rcd at 20613.

201 *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654; *BellSouth South Carolina Order*, 13 FCC Rcd at 586; *Ameritech Michigan Order*, 12 FCC Rcd at 20614.

202 *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654; *BellSouth South Carolina Order*, 13 FCC Rcd at 586; *Ameritech Michigan Order*, 12 FCC Rcd at 20614. As part of a BOC's demonstration that it is "providing" a checklist item (*e.g.*, unbundled loops, unbundled local switching, resale services), it must demonstrate that it is providing nondiscriminatory access to the systems, information, and personnel that support that element or service. *Ameritech Michigan Order*, 12 FCC Rcd at 20614. An examination of a BOC's OSS performance is therefore integral to our determination of whether a BOC is offering all of the items contained in the competitive checklist. *Id.*

and 14, as well as other checklist terms.[203]

85. As part of its statutory obligation to provide nondiscriminatory access to OSS functions, a BOC must provide access that sufficiently supports each of the three modes of competitive entry envisioned by the 1996 Act – competitor-owned facilities, unbundled network elements, and resale.[204] For OSS functions that are analogous to those that a BOC provides to itself, its customers or its affiliates, the nondiscrimination standard requires the BOC to offer requesting carriers access that is equivalent in terms of quality, accuracy, and timeliness.[205] The BOC must provide access that permits competing carriers to perform these functions in "substantially the same time and manner" as the BOC.[206] The Commission has recognized in prior orders that there may be situations in which a BOC contends that, although equivalent access has not been achieved for an analogous function, the access that it provides is nonetheless nondiscriminatory within the meaning of the statute.[207]

86. For OSS functions that have no retail analogue, the BOC must offer access "sufficient to allow an efficient competitor a meaningful opportunity to compete."[208] In assessing whether the quality of access affords an efficient competitor a meaningful opportunity to compete, we will examine, in the first instance, whether specific performance standards exist for those functions.[209] In particular, we will consider whether appropriate standards for measuring OSS performance have been adopted by the relevant state commission or agreed upon by the BOC in an interconnection agreement or during the implementation of such an agreement.[210] If such performance standards exist, we will evaluate whether the BOC's performance is sufficient

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[203] *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654; *Ameritech Michigan Order*, 12 FCC Rcd at 20614.

[204] *See BellSouth South Carolina Order*, 13 FCC Rcd at 616; *Ameritech Michigan Order*, 12 FCC Rcd at 20615, 20627.

[205] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655; *Ameritech Michigan Order*, 12 FCC Rcd at 20618-19.

[206] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655. *See also BellSouth South Carolina Order*, 13 FCC Rcd at 593-94. For example, we would not deem an incumbent LEC to be providing nondiscriminatory access to OSS if limitations on the processing of information between the interface and the back office systems prevented a competitor from performing a specific function in substantially the same time and manner as the incumbent performs that function for itself. *See Ameritech Michigan Order*, 12 FCC Rcd at 20616.

[207] *See BellSouth South Carolina Order*, 13 FCC Rcd at 594 n.292; *Ameritech Michigan Order*, 12 FCC Rcd at 20619 n.345.

[208] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655. *See also BellSouth South Carolina Order*, 13 FCC Rcd at 594; *Ameritech Michigan Order*, 12 FCC Rcd at 20619.

[209] *Ameritech Michigan Order*, 12 FCC Rcd at 20619.

[210] *Ameritech Michigan Order*, 12 FCC Rcd at 20619. As a general proposition, specific performance standards adopted by a state commission in an arbitration decision would be more persuasive evidence of commercial reasonableness than a standard unilaterally adopted by the BOC outside of its interconnection agreement. *Id.* at 20619-20.

to allow an efficient competitor a meaningful opportunity to compete.[211]

87. We analyze whether Bell Atlantic has met the nondiscrimination standard for each OSS function using the two-step approach outlined in prior orders. First, we determine "whether the BOC has deployed the necessary systems and personnel to provide sufficient access to each of the necessary OSS functions and whether the BOC is adequately assisting competing carriers to understand how to implement and use all of the OSS functions available to them."[212] We next assess "whether the OSS functions that the BOC has deployed are operationally ready, as a practical matter."[213]

88. Under the first inquiry, a BOC must demonstrate that it has developed sufficient electronic (for functions that the BOC accesses electronically) and manual interfaces to allow competing carriers equivalent access to all of the necessary OSS functions.[214] For example, a BOC must provide competing carriers with the specifications necessary for carriers to design or modify their systems in a manner that will enable them to communicate with the BOC's systems and any relevant interfaces.[215] In addition, a BOC must disclose to competing carriers any internal business rules[216] and other formatting information necessary to ensure that a carrier's requests and orders are processed efficiently.[217] Finally, a BOC must demonstrate that its OSS is designed to accommodate both current demand and projected demand for competing carriers' access to OSS functions.[218] Although not a prerequisite, the Commission continues to encourage the use of industry standards as an appropriate means of meeting the needs of a competitive local

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211 *See Ameritech Michigan Order*, 12 FCC Rcd at 20620.

212 *Ameritech Michigan Order*, 12 FCC Rcd at 20616. *See also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654; *BellSouth South Carolina Order*, 13 FCC Rcd at 592-93. In making this determination, we "consider all of the automated and manual processes a BOC has undertaken to provide access to OSS functions," including the interface (or gateway) that connects the competing carrier's own operations support systems to the BOC; any electronic or manual processing link between that interface and the BOC's OSS (including all necessary back office systems and personnel); and all of the OSS that a BOC uses in providing network elements and resale services to a competing carrier. *Ameritech Michigan Order*, 12 FCC Rcd at 20615. *See also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654 n.241.

213 *See also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654; *BellSouth South Carolina Order*, 13 FCC Rcd at 593; *Ameritech Michigan Order*, 12 FCC Rcd at 20616.

214 *Ameritech Michigan Order*, 12 FCC Rcd at 20616-17.

215 *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20662 n.294; *BellSouth South Carolina Order*, 13 FCC Rcd at 628; *Ameritech Michigan Order*, 12 FCC Rcd at 20617.

216 Business rules refer to the protocols that a BOC uses to ensure uniformity in the format of orders and include information concerning ordering codes such as universal service ordering codes (USOCs) and field identifiers (FIDs). *Ameritech Michigan Order*, 12 FCC Rcd at 20617 n.335.

217 *Id.* at 20617.

218 *Id.* at 20617-18.

exchange market.[219]

89. Under the second inquiry, we examine performance measurements and other evidence of commercial readiness to ascertain whether the BOC's OSS is handling current demand and will be able to handle reasonably foreseeable demand volumes.[220] The most probative evidence that OSS functions are operationally ready is actual commercial usage.[221] Absent data on commercial usage, the Commission will consider the results of carrier-to-carrier testing, independent third-party testing, and internal testing in assessing the commercial readiness of a BOC's OSS.[222] We reiterate, however, that the persuasiveness of a third-party review is dependent upon the qualifications, experience and independence of the third party and the conditions and scope of the review itself.[223]

b. Overview of OSS Operations

90. Bell Atlantic utilizes a number of systems and processes to support the entry of competing carriers into the local services market in New York. As an initial matter, a new entrant seeking to compete in the New York local services market must establish some form of connectivity with Bell Atlantic to submit service requests and receive responses. Bell Atlantic provides requesting carriers an application-to-application interface based on the Electronic Data Interchange (EDI) protocol for pre-ordering and ordering functions, as well as a Web-based Graphical User Interface (Web GUI or GUI) for pre-ordering, ordering and maintenance and repair functions.[224] In addition, Bell Atlantic provides requesting carriers with training and reference guides for the use of each interface.[225] A new entrant seeking to use the EDI interface must undergo a certification test with Bell Atlantic to verify that the carrier's operations support systems are capable of submitting valid service orders and receiving responses.[226]

91. Before placing an actual order for service, a competing carrier can obtain pre-ordering information by sending a request over the Web GUI or EDI pre-ordering interface.[227]

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[219] *See id.* at 20659.

[220] *BellSouth South Carolina Order*, 13 FCC Rcd at 593; *Ameritech Michigan Order*, 12 FCC Rcd at 20618.

[221] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655; *BellSouth South Carolina Order*, 13 FCC Rcd at 593; *Ameritech Michigan Order*, 12 FCC Rcd at 20618.

[222] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655; *BellSouth South Carolina Order*, 13 FCC Rcd at 593; *Ameritech Michigan Order*, 12 FCC Rcd at 20601-02, 20618.

[223] *See Ameritech Michigan Order*, 12 FCC Rcd at 20659 (emphasizing that a third-party review should encompass the entire obligation of the incumbent LEC to provide nondiscriminatory access, and, where applicable, should consider the ability of actual competing carriers in the market to operate using the incumbent's OSS access).

[224] Bell Atlantic Miller/Jordan Decl. at para. 7.

[225] *See* Bell Atlantic Miller/Jordan Decl. at paras. 87-89, 92-93.

[226] *See* KPMG Final Report at POP1 IV-3.

[227] In addition, Bell Atlantic worked with AT&T to develop, and recently made available to other carriers, a second application-to-application pre-ordering interface based on Common Object Request Broker Architecture

Such pre-ordering information, which is often accessed while the customer is on the line, typically includes a customer's address and service history and the services and features available to that customer, as well as telephone numbers and delivery dates available from Bell Atlantic.[228] Bell Atlantic returns the requested information over the same interface used by the carrier to submit the inquiry. The EDI interface enables competing carriers to populate an order form with information received from pre-ordering inquiries.[229]

92. Using the information obtained in the pre-ordering process, the competing carrier submits an order for service using the EDI or Web GUI interface.[230] An order sent by a competing carrier enters the Direct Customer Access System (DCAS) gateway system, which performs an initial check of the validity of the order. If the order is missing information or is determined not to be a valid transaction, Bell Atlantic will stop processing the order and send a Local Service Request Rejection (order rejection) notice to the carrier.[231] An order that is not rejected will either flow automatically from DCAS to the Direct Order Entry (DOE) system or drop out for manual processing at a Telecom Industry Services Ordering Center (TISOC).[232] At the TISOC, a Bell Atlantic representative will input the order into the Service Order Processor (SOP) directly.[233] If the order flowed through to DOE, the order will pass through another series of checks and edits before it is passed to SOP for processing in the appropriate back end system.[234] If the order does not pass the DOE screening, it is manually input into SOP by a Bell

(CORBA). *See* Bell Atlantic Miller/Jordan Decl. at para. 20; Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 23.

228 *See* Bell Atlantic Miller/Jordan Decl. at para. 17 (describing pre-ordering information available to competing carriers).

229 *See infra* Section V.B.1.e.

230 Most local services are ordered through a Local Service Request (LSR), although carriers must order interconnection trunks and some complex services using an Access Service Request (ASR). *See* Bell Atlantic Miller/Jordan Decl. at para. 37; KPMG Final Report at POP2 IV-20. Carriers can submit ASRs electronically or by facsimile.

231 *See* Bell Atlantic Miller/Jordan Decl. at paras. 34, 41.

232 Based on a complex algorithm, an order is classified as a potential candidate for flow through (Level 5), a non-flow through order that requires manual handling (Level 2), or a non-flow through order that requires only minimal manual handling (Level 4). Before a Level 4 order is sent to the TISOC, a shell of the order is established in the Service Order Processor. *See* KPMG Final Report at POP4 IV-66.

233 Bell Atlantic uses two centers, which collectively employ 300 full time representatives, to support wholesale orders in New York, as well as an outsourcing company for overflow of certain orders. Bell Atlantic Miller/Jordan Decl. at para. 43. The Manhattan TISOC handles primarily resale and unbundled loop orders and the Boston TISOC handles primarily orders for the UNE platform, as well as complex services and high-capacity services. In addition, the TISOCs handle any non-platform unbundled loop order or ASR received via facsimile. If the TISOC representative finds errors on a faxed order, it will contact the carrier directly to resolve the error. *See* KPMG Final Report at POP4 IV-65-67. The TISOCs are staffed from 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday. Bell Atlantic Dowell/Canny Decl. at para. 29.

234 Specifically, in addition to ensuring that orders are complete and formatted properly, DOE checks the validity of certain information, such as whether the city and state match the requested area code and exchange. *See* Bell Atlantic Miller/Jordan Decl. at para. 40.

Atlantic representative.[235] Once an order reaches SOP, it is mixed in and processed along with Bell Atlantic retail orders,[236] and Bell Atlantic returns a Local Services Request Confirmation (order confirmation) to the carrier.[237] The order confirmation provides, at minimum, the scheduled due date, service order identification, and account telephone number.[238] At times, a carrier may need to "supplement" the order to reflect a subsequent change or to respond to an error message.

93. After an order is successfully entered into SOP, Bell Atlantic begins the process of provisioning the order, or activating the requested service or feature, which may involve assigning facilities, updating translations in a switch, and dispatching technicians. Specifically, an order flows from SOP to the Service Order Analysis and Control (SOAC) system. SOAC controls the progress of service orders through the provisioning process by distributing the service order to other necessary provisioning systems and then updating SOP.[239] From SOAC, most orders flow automatically through the assignment systems, including the Loop Facility Assignment and Control System (LFACS), where the appropriate facilities are assigned or reserved for the order.[240] After assignment, the next stage in the provisioning process for most orders is the loading of the translations into the switch, which is performed by the Recent Change Memory Administration Center (RCMAC).[241] In addition, technicians at the central office perform any wiring work associated with the order. Orders that require work performed outside the central office are sent to the Work Force Administration (WFA) system for dispatch of a field technician. The Regional CLEC Coordination Center (RCCC) facilitates and coordinates the provisioning of wholesale orders.[242] Competing carriers can monitor the provisioning process by viewing Bell Atlantic's regular posting of orders that are in jeopardy of missing an installation due date and by querying the order's status in SOP.[243] Upon completion of the work involved in

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235 *See* Bell Atlantic Miller/Jordan Decl. at para. 42. If the Bell Atlantic representative is unable to correct the errors using the customer's pre-ordering information, the representative will send an electronic error message to the carrier for resubmission of the order with the corrected information. Bell Atlantic Miller/Jordan Decl. at para. 42.

236 *See* Bell Atlantic Miller/Jordan Decl. at para. 41; KPMG Final Report at POP IV-271 ("SOP does not have separate ordering and distribution interfaces differentiating between wholesale and retail.").

237 *See infra* Section V.B.1.f.(i); Bell Atlantic Miller/Jordan Decl. at para. 41. For interconnection trunk orders, the order confirmation is called a Firm Order Confirmation (FOC).

238 KPMG Final Report at POP5 IV-112.

239 *See* Bell Atlantic Miller/Jordan Decl. at para. 64; KPMG Final Report at POP11 IV-259.

240 KPMG Final Report at POP11 IV-259. Those orders that do not flow automatically through assignment are designated as Requests for Manual Assignment and are distributed to the appropriate work center – the Mechanized Loop Assignment Center, Design Build Team, or the Network Administration Center. *Id.* Bell Atlantic uses a different provisioning process for complex orders that involve design work. *See* Bell Atlantic Miller/Jordan Decl. at para. 39.

241 KPMG Final Report at POP11 IV-260-63.

242 KPMG Final Report at POP12 IV-285.

243 *See infra* Section V.B.1.f.(ii).(c).

activating service, Bell Atlantic sends a notice of "work completion" to the carrier. In addition, after the order moves from SOP into Bell Atlantic's billing systems and is recorded as complete in the billing systems, Bell Atlantic sends a notice of "billing completion" to the carrier.[244]

94. If a competing carrier's customer experiences service disruptions, the carrier can create and monitor trouble tickets, access trouble history for that line, and request a test of the customer's circuit by submitting inquiries over the Web GUI.[245] A carrier's maintenance and repair inquiry is sent to the Repair Trouble Administration System (RETAS) gateway system, which routes requests to the appropriate back end systems and returns electronic responses.[246] Most trouble reports are processed through the Loop Maintenance Operating System, handling overall maintenance, tracking and dispatch activities, and the StarMem system, which allows automatic feature updates to switches.[247] To test for and analyze faults on a circuit, Bell Atlantic uses the Mechanized Loop Testing (MLT), Switched Access Remote Testing System (SARTS), and Delphi systems.[248] Bell Atlantic's Regional CLEC Maintenance Center (RCMC) supports wholesale trouble reporting and repair issues.[249] Bell Atlantic returns responses to trouble ticket inquiries over the same interface used by the carrier to submit the inquiry.

95. In order for competing carriers to bill their customers, Bell Atlantic provides carriers with usage billing information and a process for adjusting or correcting invalid or incorrect data.[250] Bell Atlantic also provides requesting carriers documentation on its billing procedures, bill content and related interactions.[251] Specifically, Bell Atlantic delivers a record of daily usage to competing carriers. Bell Atlantic also produces periodic bills (up to ten monthly) for wholesale carriers using the Customer Record Information System (CRIS), which provides billing for resale and unbundled loops, and the Customer Access Billing System (CABS), which provides billing for access services and other unbundled network elements.[252] Competing carriers receive aggregated bills for the charges incurred by all their customers in a particular area, as well as charges for products and services ordered by the carrier itself. If a competing carrier believes that an individual usage item contains errors, it initiates a billing usage claim, and may be required to transmit the erroneous usage back to Bell Atlantic.[253] Incorrect usage data may be

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244 *See infra* Section V.B.1.f.(ii).(d).

245 In addition to the Web GUI, one carriers uses an older Electronic Interface Format (EIF) interface to submit trouble ticket inquiries. *See infra* Section V.B.1.h.

246 *See* Bell Atlantic Miller/Jordan Decl. at para. 68; KPMG Final Report at M&R1 V-3.

247 *See* Bell Atlantic Miller/Jordan Decl. at para. 69; KPMG Final Report at M&R1 V-8. For trouble with specials, the WFA system handles the maintenance, tracking and dispatch functions. *Id.*

248 *See* Bell Atlantic Miller/Jordan Decl. at para. 69.

249 KPMG Final Report at M&R1 V-9.

250 *See* Bell Atlantic Miller/Jordan Decl. at para. 80.

251 KPMG Final Report at BLG2 VI-16.

252 *See* Bell Atlantic Miller/Jordan Decl. at para. 81; KPMG Final Report at BLG3 VI-28; BLG7 VI-81.

either reprocessed or corrected with a billing adjustment. The competing carrier is responsible for billing the end user.

c. Independent Third-Party Testing

96. The New York Commission retained KPMG to conduct an independent, third-party test of the readiness of Bell Atlantic's OSS, interfaces, documentation and processes.[254] Over the course of fifteen months, KPMG evaluated 855 separate items relating to pre-ordering, ordering, provisioning, maintenance and repair, billing, and relationship management and infrastructure, by performing both transaction and operational tests.[255] KPMG combined efforts with Hewlett Packard to accomplish the transaction-driven tests.[256] In doing so, KPMG acted much like a "pseudo-competing carrier" operations department, working with Bell Atlantic business rules, creating and tracking orders, monitoring Bell Atlantic performance, logging trouble tickets, and evaluating carrier-to-carrier bills.[257] At the same time, Hewlett Packard acted as a competing carrier information technology department, establishing electronic bonding with Bell Atlantic, translating back and forth between business and EDI rule formats, and resolving problems with missing orders and responses.[258] By building and submitting transactions using Bell Atlantic's electronic interfaces with test accounts in central offices spread across New York, KPMG was able to live the experience of a competing carrier.[259] In addition, KPMG used operational tests to evaluate the results of Bell Atlantic day-to-day operational management and change management processes to determine if they functioned in accordance with Bell Atlantic documentation and expectations.[260]

97. KPMG's test was broad in scope. All stages of the relationship between Bell Atlantic and competing carriers were considered, from establishing the initial relationship, to performing daily operations, to maintaining the relationship.[261] Resale, UNE-loops, UNE-platform, and combinations were all included in the test.[262] In addition, both the application-to-application electronic data interchange (EDI) and the terminal-type web-based graphical user interface (GUI) were tested.[263] KPMG performed pre-ordering, ordering, provisioning,

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253 KPMG Final Report at BLG5 VI-45.

254 New York Commission Comments at 11; Bell Atlantic Application at 9-10.

255 Bell Atlantic Application at 9-10; KPMG Final Report at II-3-II-4.

256 KPMG Final Report at Executive Summary II-3.

257 *Id.*

258 *Id.*

259 *Id.* at Executive Summary II-3 and II-6-II-7.

260 *Id.* at Executive Summary II-4.

261 *Id.* at Executive Summary II-2.

262 *Id.*

263 *Id.*

maintenance and repair, billing, and relationship management and infrastructure tests to evaluate functional capabilities and determine whether competing carriers receive a level of service comparable to Bell Atlantic retail service.[264] To fully test these systems, orders were submitted with known error conditions, canceled, and supplemented.[265] Documentation was evaluated for usefulness, correctness, and completeness.[266] KPMG also performed stress volume tests of Bell Atlantic systems and identified specific bottlenecks for wholesale customers.[267]

98. In performing these tests, KPMG adopted a military-style test philosophy, or a mindset of "test until you pass."[268] Thus, when situations arose where testing revealed that a Bell Atlantic process, document, or system did not meet expectations, Bell Atlantic would generally implement a fix and KPMG would retest the process, document, or system until satisfied.[269] As a result, KPMG believes that competing carriers now have a "baseline set of working components" that a one-time diagnostic evaluation of Bell Atlantic's OSS would not have provided.[270]

99. To the greatest extent possible, the KPMG test was both independent and blind. Neither KPMG nor Hewlett Packard had a reporting relationship to Bell Atlantic.[271] Although it was virtually impossible for the KPMG transactions to be truly blind, KPMG instituted certain procedures to ensure that both KPMG and Hewlett Packard would not receive preferential treatment.[272] For example, KPMG required that all documents provided to them were generally available to all competing carriers.[273] The New York Commission monitored phone calls

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[264] The KPMG pre-ordering, ordering, and provisioning tests evaluated Bell Atlantic's pre-ordering process, ordering process, provisioning process, order flow-through, metrics, documentation, work center/help desk support, provisioning parity, provisioning coordination, and scalability. KPMG Final Report at POP1 IV-1. The KPMG maintenance and repair tests evaluated Bell Atlantic's Repair Trouble Administration System, performance measures, wholesale processes, documentation, wholesale work center support, network surveillance support, and coordination. *Id.* at M&R1 V-1. The KPMG billing tests evaluated Bell Atlantic's metrics, documentation, work center/help desk support, daily usage feed, and carrier bills. *Id.* at BLG1 VI-1. The KPMG relationship management and infrastructure tests evaluated Bell Atlantic's change management, interface development, account establishment and mangement, network design planning, collocation planning, interconnection planning, system administration help desk, competing carrier training, and forecasting. *Id.* at RMI1 VII-1.

[265] *See, e.g., id.* at Domain Summary-POP III-2.

[266] *See, e.g., id* at POP9 IV-205-IV-229, M&R6 V-85-V-110, BLG2 VI-16-VI-27.

[267] *See, e.g., id.* at POP6 IV-138 (testing the EDI interface at 150 percent of Bell Atlantic's highest reported hourly order volume).

[268] *Id.* at Executive Summary II-4-II-5.

[269] *Id.*

[270] *Id.*

[271] New York Commission Comments at 33. *See also* Department of Justice Evaluation at 4-5.

[272] For example, blindness was impossible because transactions arrive on dedicated circuits, the owners of which are known by Bell Atlantic. KPMG Final Report at Executive Summary II-5.

[273] *Id.*

between KPMG and Hewlett Packard and Bell Atlantic, and competing carriers were invited to attend conference calls.[274] In addition, KPMG made concurrent observations of the service quality delivered to other competing carriers during the course of its test.[275]

100. The scope and depth of KPMG's review, and the conditions surrounding it, including KPMG's independence, military-style test philosophy, efforts to place themselves in the position of an actual market entrant, and efforts to maintain blindness when possible, lead us to treat the conclusions in the KPMG Final Report as persuasive evidence of Bell Atlantic's OSS readiness. As we have said before, the persuasiveness of a third-party review is dependent on the conditions and scope of the review.[276] Because we recognize that various third-party tests may be adequate to demonstrate the operational readiness of a BOC's OSS, we emphasize that we do not foreclose the possibility that a third-party test designed differently than the KPMG review may also be persuasive. Nonetheless, were a third-party test less comprehensive, less independent, less blind, and, therefore, less useful in assessing the real world impact of a BOC's OSS on competing carriers, we would not necessarily find it persuasive and may accord it less weight than we do the KPMG Final Report.

d. Change Management and Technical Assistance

(i) Change Management

101. We conclude that Bell Atlantic demonstrates that it provides the documentation and support necessary to give competing carriers nondiscriminatory access to its OSS. Bell Atlantic makes this demonstration by showing that it has an adequate change management process in place in New York. The record also reflects that Bell Atlantic has adhered to its change management process over time. As a result, we find that Bell Atlantic provides access to its OSS in a manner that allows an efficient competitor a meaningful opportunity to compete.

(a) Background

102. Competing carriers need information about and specifications for an incumbent's systems and interfaces in order to develop and modify their systems and procedures to access the incumbent's OSS functions.[277] Thus, in the *Ameritech Michigan Order*, the Commission determined that in order to provide nondiscriminatory access to OSS, a BOC must first demonstrate that it "has deployed the necessary systems and personnel to provide sufficient access to each of the necessary OSS functions and . . . is adequately assisting competing carriers to understand how to implement and use all of the OSS functions available to them."[278] By

[274] *Id.*

[275] *Id.*

[276] *Ameritech Michigan Order*, 12 FCC Rcd at 20659.

[277] *First BellSouth Louisiana Order*, 13 FCC Rcd at 6279 n.197; *BellSouth South Carolina Order*, 13 FCC Rcd at 625 n.467; *Ameritech Michigan Order*, 12 FCC Rcd at 20617 n. 334; *Local Competition Second Report and Order*, 11 FCC Rcd at 19742.

[278] *Ameritech Michigan Order*, 12 FCC Rcd at 20616; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654.

showing that it adequately assists competing carriers to use available OSS functions, a BOC provides evidence that it offers an efficient competitor a meaningful opportunity to compete.[279] As part of this demonstration, the Commission will give substantial consideration to the existence of an adequate change management process and evidence that the BOC has adhered to this process over time.[280]

103. The change management process refers to the methods and procedures that the BOC employs to communicate with competing carriers regarding the performance of and changes in the BOC's OSS system.[281] Such changes may include operations updates to existing functions that impact competing carrier interface(s) upon a BOC's release of new interface software; technology changes that require competing carriers to meet new technical requirements upon a BOC's software release date; additional functionality changes that may be used at the competing carrier's option, on or after a BOC's release date for new interface software; and changes that may be mandated by regulatory authorities.[282] Without a change management process in place, a BOC can impose substantial costs on competing carriers simply by making changes to its systems and interfaces without providing adequate testing opportunities and accurate and timely notice and documentation of the changes.[283] As Allegiance suggests, change management problems can impair a competing carrier's ability to obtain nondiscriminatory access to UNEs, and hence a BOC's compliance with section 271(c)(2)(B)(ii).[284]

104. Competing carriers have had a substantial role in the development of Bell Atlantic's change management process in New York. As part of a collaborative process dating back to October 1997 and conducted under the auspices of the New York Commission, Bell

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[279] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655 (citing *Ameritech Michigan Order*, 12 FCC Rcd at 20619; *Local Competition First Report and Order*, 11 FCC Rcd at 15660; *Local Competition Second Reconsideration Order*, 11 FCC Rcd at 19742).

[280] Demonstration of an adequate change management process to which the BOC has adhered over time is also part of the BOC's "obligation 'to provide competing carriers with the specifications necessary to instruct competing carriers on how to modify or design their systems in a manner that will enable them to communicate with the BOC's legacy systems and any interfaces utilized by the BOC for such access.'" *BellSouth South Carolina Order*, 13 FCC Rcd at 628; *Ameritech Michigan Order*, 12 FCC Rcd at 20617.

[281] *See generally* Letter from Lawrence E. Strickling, Chief, Common Carrier Bureau, Federal Communications Commission, to Nancy E. Lubamersky, Executive Director, Regulatory Planning, U S WEST (Sept. 27, 1999) at 2-3 (U S WEST Sept. 27 Letter).

[282] *See* New York Commission Comments at 55 (change management "addresses the development of, and adherence to, stable business functions and system operations for scheduling, communicating, and managing changes that affect OSS interfaces"); *Applications of Ameritech Corp., Transferor, and SBC Communications Inc., Transferee*, CC Docket No. 98-141, FCC 99-279, App. C at para. 32 (adopting an agreement defining the change management process as a "documented process that . . . [a BOC and its competing carriers] . . . follow to facilitate communication about OSS changes, new interfaces and retirement of old interfaces, as well as the implementation time frames; which includes such provisions as . . . release announcements, comments and reply cycles, joint testing processes and regularly scheduled change management meetings").

[283] MCI WorldCom Lichtenberg/Sivori Decl. at para. 125. *See also* NY Attorney General Comments at 17.

[284] Allegiance Comments at 8.

Atlantic and competing carriers developed a detailed process of managing changes to the Bell Atlantic systems and interfaces that affect competing carriers.[285] This process resulted in the May 1998 document entitled "Telecom Industry Services—Change Management Process" (Change Agreement).[286] Although there have been subsequent modifications to the Change Agreement, the basic process and timelines set out in this document are still applicable.[287]

105. The Change Agreement sets forth detailed procedures for introducing changes in Bell Atlantic's systems and documentation. It divides all changes into five different categories and provides specific time lines and intervals for each category. Thus, the process is designed to accommodate emergency changes, regulatory changes, changes in industry standards, changes requested by Bell Atlantic, and changes requested by competing carriers.[288]

106. Regardless of the type of change, the Change Agreement expressly provides for feedback from competing carriers on the proposed changes.[289] In addition, the Change Agreement calls for Bell Atlantic and the competing carriers to develop jointly a schedule for the distribution of draft specifications or business rules,[290] receipt of competing carrier comments on the documentation, and distribution of final documentation.[291] Bell Atlantic has established a forum where representatives from Bell Atlantic and competing carriers meet—often more than once a month—to discuss upcoming system and interface changes as well as the change management procedures themselves.[292] Moreover, in September 1999, representatives of Bell Atlantic and competing carriers began to prioritize changes based on merit, rather than the sponsor of the change.[293] Thus, competing carriers had a substantial role in the development of methods and procedures for the change management process in New York and continue to have

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[285] Bell Atlantic Application at 48; Bell Atlantic Miller/Jordan Decl. at para. 94; AT&T Crafton/Connolly Aff. at para. 194.

[286] Bell Atlantic Miller/Jordan Decl. at para. 94; AT&T Crafton/Connolly Aff. at para. 194; MCI WorldCom Lichtenberg/Sivori Decl. at para. 127. *See generally* Bell Atlantic Miller/Jordan Decl. at Attach. G (May 22, 1998 document, Telecom Industry Services—Change Management Process).

[287] Bell Atlantic Miller/Jordan Decl. at para. 97.

[288] Bell Atlantic Miller/Jordan Decl. Attach. G at 6-8 (change management process description of Type 1, Type 2, Type 3, Type 4, and Type 5 changes); AT&T Crafton/Connolly Aff. at para. 196.

[289] Bell Atlantic Miller/Jordan Decl. Attach. G at 15-20 (periods for feedback from competing carriers listed in timelines for typical change types); AT&T Crafton/Connolly Aff. at para. 196.

[290] Business rules refer to the protocols that a BOC uses to ensure uniformity in the format of orders. *Ameritech Michigan Order*, 12 FCC Rcd at 20617 n.335.

[291] Bell Atlantic Miller/Jordan Decl. at para. 100.

[292] Bell Atlantic Miller/Jordan Decl. Attach. G, App. B (describing change management working groups); MCI WorldCom Comments at 19; MCI WorldCom Lichtenberg/Sivori Decl. at para. 127.

[293] Bell Atlantic Miller/Jordan Decl. at para. 100; MCI WorldCom Lichtenberg/Sivori Decl. at para. 135.

opportunities for meaningful input in the change management process today.[294]

107. Bell Atlantic's basic change management process is memorialized and set forth in a single document, the Change Agreement. As a result, Bell Atlantic's change management process documentation is clearly organized and readily accessible to competing carriers. Competing carriers can readily access the Change Agreement on Bell Atlantic's Telecommunications Industry Services (TIS) web page.[295] Modifications to this document are also available on the TIS web page.[296] Moreover, in response to KPMG findings, Bell Atlantic has improved its procedures for competing carriers to cross-reference and track information regarding the change management process.[297] Thus, Bell Atlantic now updates and maintains a database that tracks the progress of each specified change, reports changes systematically using change request numbers and uses these same numbers in communications with competing carriers to identify specific changes.[298]

108. Bell Atlantic's change management process includes a method for dispute resolution that is separate and apart from any process that is set forth in interconnection agreements. As a result, competing carriers now have a forum specifically designed to address any change management disputes. In response to concerns raised by competing carriers, Bell Atlantic, in consultation with competing carriers and the New York Commission staff, established an escalation process for resolving change control disputes.[299] This process allows competing carriers to appeal to upper level management at Bell Atlantic on change management issues and also allows competing carriers to raise these issues before the New York Commission staff.[300]

109. Bell Atlantic's change management process provides for a stable testing environment.[301] Competing carriers need access to a stable testing environment to certify that

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294 *See generally* KPMG Final Report at RMI1 VII-8 (Test R1-4, expressing satisfaction that the change management process "includes procedures for allowing input from all interested parties").

295 New York Commission Comments at 62 n.4 (Bell Atlantic's "TIS web page (www.bellatlantic.com/tis/resources.htm) provides resources and contacts for [competing carriers] at Bell Atlantic North and Bell Atlantic South").

296 *See* < www.bellatlantic.com/tis/resources.htm >.

297 *See* KPMG Final Report RMI1 VII-9 (Test R1-7); New York Commission Comments at 56.

298 KPMG Final Report at RMI1 VII-9 (Test R1-7); Bell Atlantic Miller/Jordan Decl. at para. 101; New York Commission Comments at 56. Draft specifications, for instance, are shared by electronic mail with approximately 290 individual competing carriers that participate in the change management process. Bell Atlantic Miller/Jordan Decl. at para. 98.

299 New York Commission Comments at 62.

300 New York Commission Comments at 62.

301 A stable testing environment means that no changes by the BOC are permitted after the testing period commences. *See generally* U S WEST Sept. 27 Letter; NY Attorney General Comments at 17 (describing the importance of testing opportunities for competing carriers).

their OSS will be capable of interacting smoothly and effectively with Bell Atlantic's OSS, as modified. In addition, prior to issuing a new software release or upgrade, the BOC must provide a testing environment that mirrors the production environment in order for competing carriers to test the new release. If competing carriers are not given the opportunity to test new releases in a stable environment prior to implementation, they may be unable to process orders accurately and unable to provision new customer services without delays.[302] KPMG originally found Bell Atlantic's testing environment "Not Satisfied," specifically noting that the testing environment "did not adequately mirror production capabilities."[303] As the New York Commission suggests, this can result in competing carriers' transactions succeeding in the testing environment but failing in production.[304]

110. In response to KPMG's initial finding, Bell Atlantic worked with New York Commission staff and competing carriers to establish a new testing environment and new testing procedures.[305] Some of these changes were introduced in April 1999 as part of an interim Quality Assurance (QA) environment for carrier-to-carrier testing of new versions of OSS interfaces.[306] KPMG reviewed the interim QA testing environment for pre-ordering and ordering and determined that the interim environment mirrored the production environment.[307] At the same time, KPMG determined the availability of the testing environment under Bell Atlantic's interim procedures presented problems for competing carriers.[308] As AT&T and MCI WorldCom note, the interim QA testing environment was only made available to competing carriers during business hours and for a maximum period of five business days.[309] On September 20, 1999 Bell Atlantic introduced its permanent QA testing environment. Bell Atlantic represents that the

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302 *See generally* Department of Justice Evaluation at 35 ("testing is necessary to prevent major service disruptions when Bell Atlantic makes changes in its side of the interface").

303 KPMG Final Report P1-2 at IV-17 (Test P1-2); New York Commission Comments at 59.

304 New York Commission Comments at 59.

305 New York Commission Comments at 60; Department of Justice Evaluation at 36. The test procedures developed provide for the availability of a test environment that mirrors production, a baseline validation test deck (a compilation of transactions designed to test whether a new release produces expected results) with test account data so competing carriers can test transactions of their choice, and protocols for identifying and resolving issues during testing. Both the baseline validation test deck and a progression test deck are made available to competing carriers on the Bell Atlantic TIS web page. New York Commission Comments at 60.

306 *Id.*

307 KPMG Exception Closure Report 21 at 3 (as referenced in KPMG Final Report at POP1 IV-18 (Test P1-2)).

308 *Id.*

309 AT&T Crafton/Connolly Aff. at para. 232; MCI WorldCom Lichtenberg/Sivori Decl. at para. 148 (interim QA test environment allotted only 30 hours over a 5-day period for competing carrier testing and a maximum of 3 hours of technical support). Commenters also claim that the interim QA testing environment was inadequate because orders submitted in production that had previously proved successful in testing were rejected and that Bell Atlantic failed to provide sufficient resources for competing carriers to conduct thorough carrier-to-carrier testing. Allegiance Comments at 8-9; AT&T Crafton/Connolly Aff. at para. 234; MCI WorldCom Lichtenberg/Sivori Decl. at para. 148.

permanent QA testing environment mirrors production and provides a physically separate environment for competing carrier testing.[310] In addition, Bell Atlantic plans to maintain this testing environment for all but emergency changes for at least a month, including extended daily hours.[311] Moreover, in order to ensure that competing carriers are not forced to test and cut over to a new industry standard release prematurely, Bell Atlantic maintains a pre-existing version after issuing a major new release rather than switching directly from one version to the next.[312] Finally, Bell Atlantic, in response to a separate KPMG "Not Satisfied" finding, has introduced new procedures to certify that a competing carrier may move from the testing environment to the production environment.[313]

(b) Discussion

111. Based on the above record evidence, we conclude that Bell Atlantic demonstrates that it has a change management process in place in New York that provides an efficient competitor with a meaningful opportunity to compete. Specifically, we find that Bell Atlantic makes this showing with: (1) evidence of competing carrier input in the design and continued operation of the change management process; (2) the memorialization of the change management process in a basic document; (3) the availability of a separate forum for change management disputes; (4) and the availability of a stable testing environment that mirrors production. We note that even competing carriers have acknowledged in their comments that the processes in the Change Agreement are satisfactory as written.[314] Because we recognize that various change management plans may be adequate to meet the needs of competing carriers, we emphasize that the individual factors described above are indicative, but not dispositive, of an adequate process. Although we will look for evidence of these same factors in evaluating a future applicant's change management process, we do not foreclose the possibility that a different plan may be sufficient.

112. We also find that the record demonstrates that Bell Atlantic has adhered to its

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[310] Bell Atlantic Miller/Jordan Decl. at para. 106; Department of Justice Evaluation at 36; AT&T Crafton/Connolly Aff. at para. 235.

[311] Bell Atlantic Miller/Jordan Decl. at para. 106.

[312] Bell Atlantic Miller/Jordan Decl. Attach. G at 89-91 (describing versioning under the Change Agreement).

[313] Certification testing is a process conducted jointly by Bell Atlantic and competing carriers to determine whether or not a competing carrier's OSS are capable of submitting valid service orders and receiving responses using Bell Atlantic's EDI interface. KPMG Final Report at POP1 IV-3. KPMG determined that Bell Atlantic failed to offer a repeatable process for planning and coordinating certification testing activities and that Bell Atlantic lacked clearly defined entrance and exit criteria designed to certify that a competing carrier can move from the testing environment to the production environment. KPMG Final Report at POP1 IV-17 (Test P1-1); *see also* KPMG Exception Report 22 (as referenced in KPMG Final Report at POP1 IV-17 (Test P1-1)). Based on KPMG's findings, industry comment, and competing carrier input, Bell Atlantic issued new procedures in May 1999. KPMG reviewed and validated these procedures. New York Commission Comments at 61-62; KPMG Exception Closure Report 22 (as referenced in KPMG Final Report at POP1 IV-17 (Test P1-1)).

[314] MCI WorldCom Comments at 19; MCI WorldCom Lichtenberg/Sivori Decl. at para. 127; *see also* AT&T Crafton/Connolly Aff. at para. 195.

change management process over time. Commenters, however, express concern that problems remain with respect to Bell Atlantic's ability to adhere to notification and documentation timelines in its Change Agreement and Bell Atlantic's ability to show that the permanent QA testing environment meets the needs of competing carriers. In addition, commenters allege that Bell Atlantic issues too many emergency changes and fails to consider competing carrier input in the change management process.

(i) Notification and Documentation Timeliness

113. We conclude that Bell Atlantic provides competing carriers with change management notification and documentation for upcoming change releases in a manner sufficiently timely to allow an efficient competitor a meaningful opportunity to compete. As TRA suggests, the failure of a BOC to provide timely, complete, and accurate notice of alterations to its systems and processes hinders the ability of competitive providers to serve their customers adequately.[315] Without timely notification and documentation, competing carriers are unable to modify their existing systems and procedures or develop new systems to maintain access to a BOC's OSS functions. As a preliminary matter, we find that the Change Agreement establishes reasonable intervals for the distribution of change management notification and documentation because they provide competing carriers with sufficient time to prepare for Bell Atlantic system changes.[316] In addition, we commend Bell Atlantic and the New York Commission for developing metrics that report its compliance with these intervals.[317]

114. We find that Bell Atlantic provides competing carriers with timely change management notification and documentation for changes made at the request of regulatory authorities (Type 2 changes), industry standard organizations (Type 3 changes), and competing carriers (Type 5 changes) in a manner sufficiently timely to allow an efficient competitor a meaningful opportunity to compete. For these types of changes, the data are extremely limited because they occur infrequently. Nonetheless, the data provided on these changes in both the Carrier-to-Carrier metrics and the KPMG Final Report demonstrate that Bell Atlantic has already established a pattern of compliance with the relevant notification and documentation intervals in

[315] TRA Comments at 11 n.38. *See also* MCI WorldCom Comments at 20-21; NY Attorney General Comments at 17.

[316] Under the Change Agreement, Bell Atlantic must provide competing carriers initial notification of most upcoming changes at least 66 days prior to the implementation of the change. For these changes, Bell Atlantic must also distribute final documentation describing the change in detail 45 days prior to implementation. For emergency changes, however, the Change Agreement only requires that Bell Atlantic notify competing carriers at any time prior to implementation. For regulatory changes, notification and documentation intervals may be set by the New York Commission or other regulatory authority. Changes in industry standards may also proceed on a different schedule. *See generally* Bell Atlantic Miller/Jordan Decl. Attach. G at 15-20.

[317] *See Order Adopting Inter-Carrier Service Quality Guidelines*, Case 97-C-0139 (NYPSC Feb. 16, 1999) (Bell Atlantic Application, App. E, Tab 61) (*NYPSC Guidelines Order*); *Order Establishing Permanent Rule*, Case 97-C-0139 (NYPSC Jun. 30, 1999) (Bell Atlantic Application, App. E, Tab 83) (*NYPSC Permanent Rule Order*).

its Change Agreement.[318]

115. We also find that Bell Atlantic provides competing carriers with notification and documentation for Bell Atlantic-initiated changes (Type 4 changes) in a manner sufficiently timely to allow an efficient competitor a meaningful opportunity to compete.[319] In its Final Report, KPMG found that Bell Atlantic was unable to meet documentation intervals set in the Change Agreement for Type 4 changes, and characterized this problem as "Not Satisfied."[320] KPMG found that Bell Atlantic provided timely documentation in only three of nineteen instances for Type 4 changes from January to June 1999.[321] During the same period, Bell Atlantic was able to provide timely notification of upcoming Type 4 changes in sixteen of twenty instances.[322] Bell Atlantic contends, however, that it has now addressed the documentation timeliness problem identified by KPMG.[323] With respect to initial notification timeliness, during the period from July to October 1999, the record shows that Bell Atlantic provided timely notification for eleven of twelve Type 4 changes.[324] With respect to final documentation timeliness, during the period from August to October 1999, the record shows that Bell Atlantic

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318 *See generally* KPMG Final Report at RMI1 VII-10 (Table VII-1.9); Bell Atlantic Dowell/Canny Decl. Attach. D at 84-85, 96-97 (metrics PO-4-01, PO-4-02, PO-4-03); Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1-2 (metrics PO-4-01, PO-4-O2, and PO-4-03).

319 Type 4 changes are those that Bell Atlantic seeks to implement on its own accord, rather than at the request of regulatory authorities, industry standard organizations, or competing carriers themselves. *See generally* Bell Atlantic Miller/Jordan Decl. Attach. G at 6.

320 KPMG Final Report at RMI1 VII-8.

321 KPMG Final Report at RMI1 VII-10.

322 *Id.*

323 Bell Atlantic Miller/Jordan Decl. at para. 102. Bell Atlantic asserts that the deficiencies identified by KPMG resulted from Bell Atlantic missing several dates for the distribution of documentation in February 1999, and excluding updates to RETAS documentation from the change management process. According to Bell Atlantic, it now includes RETAS documentation in the change management process. Bell Atlantic Miller/Jordan Decl. at para. 102; New York Commission Comments at 57. In addition, we note that billing changes also are now a part of the change management process in New York. Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 81.

324 Because the sample sizes in any given month for Type 4 changes are so small, we prefer to review Bell Atlantic performance over the course of several recent months rather than in any one individual month. This also provides us with a better comparison to the data provided in the KPMG Final Report. KPMG Final Report at RMI1 VII-10 (Table VII-1.9); Bell Atlantic Dowell/Canny Decl. Attach. D at 84, 96; Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1 (observations listed for metric PO-4-01). In response to commenters' claims regarding untimely change notification and documentation, Bell Atlantic submitted data showing its Type 4 notification was timely in two of two Type 4 changes that occurred in October through October 19, 1999. Letter from Penny Rubin, Managing Attorney, New York Commission, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 96-98 Attach. at 1 (filed Nov. 30, 1999) (New York Commission Nov. 30 *Ex Parte* Letter); Letter from Dolores A. May, Director, Federal Regulatory, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295 (filed Dec. 14, 1999) at 1 (Bell Atlantic Dec. 24 *Ex Parte* Letter).

provided timely documentation for eight of ten Type 4 changes.[325] Thus, Bell Atlantic has demonstrated considerable improvement since the KPMG review. In particular, Bell Atlantic was able to provide both timely notification and documentation to competing carriers for two of two Type 4 changes that occurred in October 1999.[326] We find that these improvements, coupled with the opportunities competing carriers have to participate in the prioritization of changes and the month long testing opportunities provided for Type 4 changes, indicate that an efficient competitor has a meaningful opportunity to compete.[327]

116. In addition, we conclude that Bell Atlantic provides notification for emergency changes (Type 1 changes) in a manner sufficiently timely to allow an efficient competitor a meaningful opportunity to compete. Under the Change Agreement, timely emergency notification simply requires notification prior to implementation.[328] As the KPMG Final Report suggests, timely emergency notification can range from several hours to several days advance notice.[329] Although we understand advance notification is preferable for competing carriers, we also must acknowledge that given the nature of emergency changes, it will not always be possible for Bell Atlantic to notify competing carriers prior to implementation. Some commenters question Bell Atlantic's ability to provide competing carriers with timely notification of Type 1 emergency changes.[330] MCI WorldCom, for instance, complains that the timeliness of Bell Atlantic's emergency notification fell considerably in September 1999, when Bell Atlantic was timely for only seven of twelve Type 1 changes.[331] We note, however, that Bell Atlantic's Type 1 change notification was timely for twenty-five of twenty-six changes in July 1999 and six of six changes that occurred between October 1 and October 19, 1999.[332] Because

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[325] The timeliness of Bell Atlantic documentation for Type 4 changes is still listed as under development in July 1999. Bell Atlantic Dowell/Canny Decl. Attach. D at 85, 97; Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 2. In response to commenters' claims regarding untimely change notification and documentation, Bell Atlantic submitted data showing its Type 4 change documentation was timely for two of two changes that occurred in October through October 19, 1999. New York Commission Nov. 30 *Ex Parte* Letter, Attach. at 2; Bell Atlantic Dec. 14 *Ex Parte* Letter at 1.

[326] In response to commenters' claims regarding untimely change notification and documentation, Bell Atlantic submitted data showing its Type 4 change documentation was timely for two of two changes that occurred in October through October 19, 1999. New York Commission Nov. 30 *Ex Parte* Letter, Attach. at 2; Bell Atlantic Dec. 14 *Ex Parte* Letter at 1.

[327] Bell Atlantic Miller/Jordan Decl. at paras. 100, 106; MCI WorldCom Lichtenberg/Sivori Decl. at para. 135.

[328] Bell Atlantic Miller/Jordan Decl. Attach. G at 19-20. *See, e.g,* Bell Atlantic Dowell/Canny Decl. Attach. D at 84, 96 (listing the standard for timely notification of emergency changes as "Notification before implementation").

[329] KPMG Final Report at RMI1 VII-10 (Table VII-1.9).

[330] AT&T Comments at 32-33; MCI WorldCom Comments at 23; MCI WorldCom Lichtenberg/Sivori Decl. at paras. 62-63. Documentation timeliness for Type 1 changes is not reported in the Carrier-to-Carrier metrics, because it is not applicable. Bell Atlantic Dowell/Canny Decl. Attach. B at 12 n.5.

[331] MCI WorldCom Reply at 12; Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1.

[332] Bell Atlantic Dowell/Canny Decl. Attach. D at 84 (metric PO-4-01). In response to commenters' claims regarding untimely change notification and documentation, Bell Atlantic submitted data showing that its Type 1 change notification was timely for six of six changes that occurred between October 1-19, 1999. New York

we believe that as a matter of course emergency changes will occur in situations where Bell Atlantic may be unable to notify competing carriers prior to implementation, we do not find that Bell Atlantic's September 1999 performance prevents us from concluding that Bell Atlantic provides emergency change notification to competing carriers in a manner sufficiently timely to allow an efficient competitor to compete.[333]

117. Our conclusion that Bell Atlantic provides timely change management notification and documentation to competing carriers seeking to use its OSS differs from that reached by the Department of Justice.[334] We reach this conclusion, however, by separately assessing the underlying issues associated with each of the Bell Atlantic change types identified in the Change Agreement. First, with respect to the limited number of changes made at the request of regulatory authorities, industry standard organizations, and competing carriers themselves, Bell Atlantic has established a pattern of general compliance with the notification and documentation intervals in its Change Agreement. Second, we find the recent improvement in Bell Atlantic's timely distribution of Type 4 notification and documentation demonstrates its ability to adhere to its change management process. Finally, while we acknowledge notification prior to implementation of an emergency change will not always be possible, we still find that Bell Atlantic provides sufficiently timely notification to competing carriers.

118. Although we reach the same conclusion as the New York Commission with respect to Bell Atlantic's change management notification and documentation timeliness, we do not rely on Bell Atlantic's willingness to have its future change management notification and documentation timeliness enforced through the Change Control Assurance Plan.[335] In addition, we acknowledge that the timeliness of Bell Atlantic's performance falls short of the monthly standards for change management notification and documentation set out in the Carrier-to-Carrier metrics and used in the Change Control Assurance Plan.[336] Nonetheless, when we view

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Commission Nov. 30 *Ex Parte* Letter Attach. at 1; Bell Atlantic Dec. 14 *Ex Parte* Letter (listing October 1-19, 1999 observations for metric PO-4-01).

[333] In addition, not all emergency releases result in system changes, thus limiting the inconvenience imposed on competing carriers by Type 1 changes. *See, e.g.*, Bell Atlantic Nov. 24 *Ex Parte* Letter at 4-5 (describing September 1999 Type 1 changes). Moreover, we expect Bell Atlantic's new practice to notify by pager key individuals at competing carriers when an emergency change occurs, and to conduct a conference call whenever there is an immediate software change, will minimize the impact of Type 1 change notification difficulties on competing carriers. Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at paras. 69-71; MCI WorldCom Dec. 14 *Ex Parte* Letter at 10.

[334] Department of Justice Evaluation at 34 (expressing concern that Bell Atlantic has not yet demonstrated that it is able to provide competing carriers with "relatively stable and predictable documentation"). *See also* AT&T Comments at 28; MCI WorldCom Comments at 20-21; NY Attorney General Comments at 17; Sprint Comments at 22; TRA Comments at 11; AT&T Crafton/Connolly Aff. at paras. 119-121, 124-132; MCI WorldCom Lichtenberg/Sivori Decl. at paras. 57-60.

[335] New York Commission Comments at 57.

[336] The standard adopted by the New York Commission for both the Carrier-to-Carrier metrics and the Change Control Assurance Plan is 95 percent change management notification and documentation sent on time with no delays greater than 8 days. Bell Atlantic Dowell/Canny Decl. Attach. B at 11 (listing metric PO-4 performance

Bell Atlantic's overall performance over the course of recent months, we find that Bell Atlantic's notification and documentation timeliness is sufficient to allow an efficient competitor a meaningful opportunity to compete. We will, however, be prepared to take appropriate enforcement action if there is evidence of deteriorating performance in the future. Finally, although our conclusion is based on the specific categories of changes identified in the Bell Atlantic Change Agreement in place in New York, we do not foreclose the possibility that a different plan with a less disaggregated structure and different intervals for notification and documentation may also be sufficient.

(ii) Testing Environment

119. We conclude that Bell Atlantic's permanent QA testing environment provides competing carriers with a stable environment and an adequate opportunity to test Bell Atlantic OSS changes prior to implementation. Specifically, we find the record demonstrates that Bell Atlantic's new testing environment adequately mirrors the production environment and offers the extended testing periods that competing carriers need for new entrant certification and new release testing. MCI WorldCom and AT&T note that as of the date of Bell Atlantic's application, no competing carriers had been given the opportunity to use the permanent QA testing environment and determine that it works in the manner Bell Atlantic represents in its application.[337] We conclude there is sufficient evidence to demonstrate that Bell Atlantic's permanent QA testing environment provides a stable testing environment for competing carriers.

120. We base this conclusion on the experience of the competing carriers that used the permanent QA testing environment without difficulty for an October 16, 1999 software release.[338] Thus, we find that the recent evidence from commercial usage suggests that Bell Atlantic's permanent QA environment works in the manner represented in its application. As the New York Commission attests, with only one minor exception, the results of the production run matched the results of the run in the permanent QA testing environment.[339] The one exception, the absence of a billing telephone number for a directory listing, has been corrected.[340]

121. Our conclusion is buttressed by the similarity between the interim and permanent QA testing environment and KPMG's finding that the interim testing environment adequately

standard); Bell Atlantic Dowell/Canny Decl. Attach. C, Ex. 2 (Appendix A to Amended Change Control Assurance Plan).

[337] MCI WorldCom Comments at 24-25; AT&T Crafton/Connolly Aff. at para. 235; AT&T Reply at 25; MCI WorldCom Reply at 11-12; AT&T Crafton/Connolly Reply Aff. at para. 24 n.14.

[338] In response to commenters' claims regarding lack of evidence that the permanent QA testing environment actually works as represented in the Bell Atlantic Application, the New York Commission submitted information regarding successful competing carrier use of the permanent QA testing environment for the October 16, 1999 software release. New York Commission Reply at 19.

[339] *Id.* at 19 n.2.

[340] *Id.*

mirrored the production environment.[341] Both environments mirror production and offer test decks of representative pre-ordering and ordering transactions.[342] The basic processes for new release and new entrant testing distributed in April 1999 apply to both the interim and permanent environments.[343] The only differences between the two environments are that the permanent QA testing environment is physically separate and expands the test period to one month, thus remedying the major problems identified by KPMG and competing carriers with the interim QA testing environment.[344]

122. We find that the record demonstrates that Bell Atlantic's permanent QA testing environment provides competing carriers with a stable environment and adequate opportunity to test Bell Atlantic OSS changes prior to implementation. Although we reach the same conclusion as the New York Commission, we differ somewhat from that reached by the Department of Justice.[345] The Department of Justice found that while it was hopeful that the permanent QA testing environment would meet competing carrier needs, the results of recent Bell Atlantic improvements did not appear in the record before them.[346] Comments filed subsequent to the evaluation of the Department of Justice, however, demonstrate that the October 16, 1999 software release using the new QA testing environment was successful.[347] As a result, we find that the record now demonstrates that Bell Atlantic provides a testing environment for OSS changes sufficient to enable an efficient competitor a meaningful opportunity to compete.

(iii) Other Issues

123. AT&T and Sprint assert that Bell Atlantic improperly categorizes a substantial number of changes as Type 1 emergency changes in order to evade the longer notification requirements associated with other types of changes under the Change Agreement.[348] We conclude these claims do not warrant a finding that Bell Atlantic fails to adhere to its change management procedures in a manner sufficient to provide an efficient competitor with a meaningful opportunity to compete. Type 1 emergency changes are specifically defined and

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[341] *See generally* KPMG Exception Closure Report 21 (as referenced in KPMG Final Report at POP IV-18 (Test P1-2)) (evaluating and finding generally satisfactory improved interim QA testing environment).

[342] Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 93. A test deck is a compilation of transactions designed to test whether a new release produces expected results. New York Commission Comments at 60.

[343] *See* Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 93.

[344] *Id.*

[345] New York Commission Comments at 59-60.

[346] Department of Justice Evaluation at 36.

[347] In response to commenters' claims regarding lack of evidence that the permanent QA testing environment actually works as represented in the Bell Atlantic Application, the New York Commission submitted information regarding successful competing carrier use of the permanent QA testing environment for the October 16, 1999 software release. New York Commission Reply at 19. In addition, unlike the Department of Justice, we consider the similarity of the interim QA testing environment to the permanent QA testing environment.

[348] *See* Sprint Comments at 20-21; AT&T Crafton/Connolly Aff. at para. 199.

provided for in the Change Agreement that was developed in a collaborative proceeding involving Bell Atlantic, competing carriers, and the New York Commission.[349] Furthermore, as AT&T itself acknowledges, on June 30, 1999, Bell Atlantic and competing carriers began a series of workshops that resulted in a more narrow definition of Type 1 changes.[350] This provides evidence of competing carriers' continuing opportunity to provide meaningful input in the change management process in New York. Since these workshops began, Bell Atlantic has reduced the number of Type 1 changes from twenty-six in July 1999 to ten in August, twelve in September and six in the first half of October.[351] Because emergency changes are specifically provided for in the Change Agreement and Bell Atlantic's use of them has decreased in recent months, we find AT&T and Sprint's claims unpersuasive.

124. AT&T and MCI WorldCom allege that Bell Atlantic fails to give competing carriers opportunities to provide input on new releases as it is obligated to do under the Change Agreement.[352] We find that the record simply does not support this claim. For instance, representatives of competing carriers and Bell Atlantic jointly prioritize upcoming changes.[353] In addition, Bell Atlantic and competing carriers meet regularly to discuss upcoming changes and the change management process itself.[354] As part of these meetings, Bell Atlantic and the competing carriers develop a detailed chart of competing carrier requests for action on specific change management issues, track the status of these problems, and note Bell Atlantic actions taken to address the problem. For example, when MCI WorldCom expressed a preference regarding how customer service record addresses be made available to competing carriers, Bell Atlantic agreed to add this functionality within the remaining weeks before the related change release.[355] At the same time, Bell Atlantic devised a special software approach to defer implementation of this functionality for AT&T, the sole competing carrier that objected to this change.[356] Although we would be concerned about the impact of a BOC disregarding input from

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[349] Bell Atlantic Miller/Jordan Decl. Attach. G at 7-8, 19-20, 40-45, 80-88.

[350] AT&T Crafton/Connolly Aff. at para. 201. *See generally* AT&T Crafton/Connolly Aff., Attach. 8. Based on feedback from competing carriers, Bell Atlantic also agreed to add a pager notification system to ensure that key individuals at competing carriers receive notice of emergency changes as soon as possible. Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 69.

[351] Bell Atlantic Dowell/Canny Decl. Attach. D at 84, 96; Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1. In response to commenters' claims regarding Type 1 change frequency, Bell Atlantic submitted data showing that only six Type 1 changes occurred in October through October 19, 1999. New York Commission Nov. 30 *Ex Parte* Letter Attach. at 1; Bell Atlantic Dec. 14 *Ex Parte* Letter at 1 (observations listed for metric PO-4-01).

[352] MCI WorldCom Comments at 20-21; AT&T Crafton/Connolly Aff. at paras. 207-212.

[353] Bell Atlantic Miller/Jordan Decl. at para. 100; MCI WorldCom Lichtenberg/Sivori Decl. at para. 135. Further, as described above, Bell Atlantic and competing carriers participated in a series of workshops to come up with a more narrow definition of Type 1 emergency changes. AT&T Crafton/Connolly Aff. at para. 201. *See generally* AT&T Crafton/Connolly Aff. Attach. 8.

[354] MCI WorldCom Comments at 19; MCI WorldCom Lichtenberg/Sivori Decl. at para. 127; Bell Atlantic Miller/Jordan Decl. Attach. G at 4.

[355] Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 86.

[356] *Id.*

competing carriers on change management issues, we do not believe the record indicates that this is a problem for carriers working with Bell Atlantic in New York.

125. We also conclude that problems with specific OSS changes described by MCI WorldCom, Allegiance, and Sprint do not warrant a conclusion that Bell Atlantic fails to adequately assist competing carriers seeking to use its OSS.[357] Because Bell Atlantic must accommodate a variety of interests with any given change release, we reasonably expect some competing carriers to be less than satisfied with any given change.[358] We do not, however, find that these complaints evidence a systemic problem.

(ii) Technical Assistance and Help Desk Support

126. In the *Ameritech Michigan Order*, the Commission determined that in order to provide nondiscriminatory access to OSS, a BOC must first demonstrate that it "has deployed the necessary systems and personnel to provide sufficient access to each of the necessary OSS functions and . . . is adequately assisting competing carriers to understand how to implement and use all of the OSS functions available to them."[359] By showing that it adequately assists competing carriers to use available OSS functions, a BOC provides evidence that it offers an efficient competitor a meaningful opportunity to compete.[360] As part of this demonstration, the Commission will give substantial consideration to evidence showing that the BOC provides adequate technical assistance and help desk support to competing carriers seeking to use its OSS.[361]

127. We conclude that Bell Atlantic demonstrates that it provides the technical assistance and help desk support necessary to give competing carriers nondiscriminatory access to its OSS. Bell Atlantic has produced a separate three volume handbook for resellers and purchasers of UNEs, both available on CD-ROM with word search capability.[362] Documentation

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[357] Allegiance Comments at 8-9; Sprint Comments at 18-20 (describing difficulties with Bell Atlantic's decision to skip LSOG 3); MCI WorldCom Reply Comments at 15-17, 20 (alleging problems with implementation of the GUI III interface, parsed CSR); MCI WorldCom Dec. 14 *Ex Parte* Letter at 11 (criticizing Bell Atlantic change management notification proposal involving closing trouble tickets without root cause analysis).

[358] *See, e.g.*, Bell Atlantic Reply at 39 n.43 (noting that Sprint complaints regarding LSOG 3 must be viewed in light of a general consensus reached by competing carriers in the change management process).

[359] *Ameritech Michigan Order*, 12 FCC Rcd at 20616; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654.

[360] *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655 (citing *Ameritech Michigan Order*, 12 FCC Rcd at 20619; *Local Competition First Report and Order*, 11 FCC Rcd at 15660; *Local Competition Second Reconsideration Order*, 11 FCC Rcd at 19742).

[361] Demonstration of adequate technical assistance and help desk support is also part of the BOC's "obligation 'to provide competing carriers with the specifications necessary to instruct competing carriers on how to modify or design their systems in a manner that will enable them to communicate with the BOC's legacy systems and any interfaces utilized by the BOC for such access.'" *BellSouth South Carolina Order*, 13 FCC Rcd at 628; *Ameritech Michigan Order*, 12 FCC Rcd at 20617.

[362] Volume I provides basic information competing carriers need to know about doing business with Bell Atlantic, Volume II addresses the interfaces available to competing carriers for obtaining access to Bell Atlantic's

is updated for each release and also is made available on Bell Atlantic's web site.[363] Thus, competing carriers have access to complete, up-to-date business rules and ordering codes.[364] Bell Atlantic also conducts regular training courses for competing carriers in key areas.[365] In addition, Bell Atlantic's "Systems Support Help Desk" provides a single point of contact for competing carrier reports of system outages and software defects and provides help to ensure that any problems are resolved as quickly as possible.[366] We are further encouraged by Bell Atlantic's practice of evaluating the performance of its help desk call agents and, when necessary, replacing the tools available to them for analyzing information and resolving problems.[367] Although KPMG reported confusion regarding contact lists and help desk numbers, we find that Bell Atlantic has since fixed this problem.[368] Specifically, we note that in September 1999, Bell Atlantic posted on its web site a comprehensive and descriptive list of the different support features available to competing carriers, including the time of day these support functions are available.[369] Accordingly, we find that Bell Atlantic provides efficient competitors a meaningful opportunity to compete by enabling them to understand how to implement and use all of the OSS functions available to them. Thus, we reject commenters' allegations that Bell Atlantic's technical assistance and help desk support is inadequate.[370]

e. Pre-Ordering

128. Based on the evidence in the record, we conclude that Bell Atlantic demonstrates that it provides nondiscriminatory access to OSS pre-ordering functions. Bell Atlantic offers requesting carriers an industry standard application-to-application pre-ordering interface that

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OSS and provides information on how to obtain the technical specifications for them, and Volume III provides business rules for ordering Bell Atlantic products. Bell Atlantic Miller/Jordan Decl. at paras. 87-89.

[363] Bell Atlantic Miller/Jordan Decl. at 87-88.

[364] Moreover, Bell Atlantic has addressed many of the problems with its business rules and EDI specification documentation identified during the KPMG review, resulting in more accurate documentation for competing carriers seeking to access Bell Atlantic's OSS. *See generally* KPMG Final Report at POP9 IV-227-228 (Tests P9-12, P9-14, P9-17-23).

[365] Bell Atlantic Miller/Jordan Decl. at para. 92.

[366] Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 97.

[367] *Id.*

[368] The KPMG Final Report found that Bell Atlantic documents for competing carriers failed to provide useful contact lists and help desk numbers. KPMG characterized this problem as "Not Satisfied." KPMG Final Report at POP9 IV-220 (Test P9-16).

[369] Bell Atlantic Miller/Jordan/Zanfini Reply Decl. Attach. U (listing from web site of help desk and assistance information for competing carriers).

[370] Adelphia Comments at 3 (alleging difficulties reaching the appropriate contact person at Bell Atlantic when problems arise that require technical assistance); AT&T Comments at 29 (alleging problems with help desk errors); MCI WorldCom Comments at 23-24 (citing KPMG Final Report); TRA Comments at 12-13 (citing KPMG Final Report); Z-Tel Comments at 14-16 (alleging inadequate wholesale account support); AT&T Reply at 26 (citing KPMG Final Report); MCI Dec. 14 *Ex Parte* Letter at 12 (criticizing Bell Atlantic help desk attendants).

enables carriers to integrate pre-ordering and ordering functions. Through this and other pre-ordering interfaces, Bell Atlantic makes available to requesting carriers all the functionality that it provides to itself. Bell Atlantic also shows, through response times and interface availability performance data and third-party testing, that its pre-ordering interfaces and systems are operationally ready and capable of sustaining reasonably foreseeable demand volumes.

(i) Background

129. The pre-ordering phase of OSS generally includes those activities that a carrier undertakes to gather and verify the information necessary to place an order.[371] Given that pre-ordering represents the first exposure that a prospective customer has to a competing carrier, it is critical that inferior access to the incumbent's OSS does not render the carrier a less efficient or responsive service provider than the incumbent.[372] Because most pre-ordering functions that support resale services, as well as many of the functions that support service through unbundled network elements, are analogous to the pre-ordering of a BOC's retail services, Bell Atlantic must demonstrate that it provides requesting carriers access that enables them to perform these functions in substantially the same time and manner as Bell Atlantic's retail operations.[373] For those pre-ordering functions that lack a retail analogue, Bell Atlantic must provide access that affords an efficient competitor a meaningful opportunity to compete.

(ii) Discussion

130. *Application-to-Application Functionality.* We find that Bell Atlantic offers requesting carriers access to an application-to-application interface for all pre-ordering functionality that Bell Atlantic provides to itself. In prior orders, the Commission has emphasized that providing pre-ordering functionality through an application-to-application interface is essential in enabling carriers to conduct real-time processing and to integrate pre-ordering and ordering functions in the same manner as the BOC.[374] Bell Atlantic demonstrates

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[371] *BellSouth South Carolina Order*, 13 FCC Rcd at 589; *see also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20660 (referring to "pre-ordering and ordering" collectively as "the exchange of information between telecommunications carriers about current or proposed customer products and services or unbundled network elements or some combination thereof."). Pre-ordering consists of several functions and, in prior orders, the Commission has identified the following five functions: (1) customer service record (CSR) information; (2) address validation; (3) telephone number information; (4) due date information; and (5) services and feature information. *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20660; *First BellSouth Louisiana Order*, 13 FCC Rcd at 6274; *BellSouth South Carolina Order*, 13 FCC Rcd at 619.

[372] *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20669.

[373] *BellSouth South Carolina Order*, 13 FCC Rcd at 619; *see also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655; *Ameritech Michigan Order*, 12 FCC Rcd at 20618-19.

[374] *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20661-67; *BellSouth South Carolina Order*, 13 FCC Rcd at 623-29 (concluding that failure to deploy an application-to-application interface denies competing carriers equivalent access to pre-ordering OSS functions). Moreover, the Commission also found that, without access to an application-to-application interface, a competing carrier would be unable to develop its own customized interface that its staff could use nationwide, and would be required to train its staff on a BOC's proprietary system. *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20662 n.291; *BellSouth South Carolina Order*, 13 FCC Rcd at 624-25.