

facilitate the detection of improper cost allocation and cross-subsidization between the BOC and its section 272 affiliate.¹²⁴⁴ In addition, these safeguards ensure that BOCs do not discriminate in favor of their section 272 affiliates.¹²⁴⁵

402. As we stated in the *Ameritech Michigan Order*, compliance with section 272 is “of crucial importance” because the structural, transactional, and nondiscrimination safeguards of section 272 seek to ensure that BOCs compete on a level playing field.¹²⁴⁶ The Commission’s findings regarding section 272 compliance constitute independent grounds for denying an application.¹²⁴⁷ Past and present behavior of the BOC applicant provides “the best indicator of whether [the applicant] will carry out the requested authorization in compliance with section 272.”¹²⁴⁸

B. Discussion

403. Based on the record, we conclude that Bell Atlantic has demonstrated that it will comply with the requirements of section 272. We note that neither the New York Commission nor the Department of Justice addressed Bell Atlantic’s showing of section 272 compliance. We address each section 272 requirement below.

1. Structural, Transactional, and Accounting Requirements of Section 272

404. *Section 272(a) – Separate Affiliate.* Section 272(a) requires BOCs and their local exchange carrier affiliates that are subject to section 251(c) to provide certain competitive services through structurally separate affiliates.¹²⁴⁹ For the reasons described in the section below,

Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as amended, CC Docket No. 96-149, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 21905 (1996) (*Non-Accounting Safeguards Order*), petition for review pending sub nom. *SBC Communications v. FCC*, No. 97-1118 (filed D.C. Cir. Mar. 6, 1997) (held in abeyance May 7, 1997), First Order on Reconsideration, 12 FCC Rcd 2297 (1997) (*First Order on Reconsideration*), Second Order on Reconsideration, 12 FCC Rcd 8653 (1997) (*Second Order on Reconsideration*), aff’d sub nom. *Bell Atlantic Telephone Companies v. FCC*, 131 F.3d 1044 (D.C. Cir. 1997), Third Order on Reconsideration, FCC 99-242 (rel. Oct. 4, 1999) (*Third Order on Reconsideration*).

¹²⁴⁴ *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21914; *Accounting Safeguards Order*, 11 FCC Rcd at 17550; *Ameritech Michigan Order*, 12 FCC Rcd at 20725.

¹²⁴⁵ *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21914; *Ameritech Michigan Order*, 12 FCC Rcd at 20725.

¹²⁴⁶ *Ameritech Michigan Order*, 12 FCC Rcd at 20725; see AT&T Comments at 64; ALTS Comments at 69; CERB Comments at 5-6; CloseCall Comments at 8.

¹²⁴⁷ *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20785-86.

¹²⁴⁸ *Id.*

¹²⁴⁹ Section 272(a) states that a BOC may not provide certain services except through one or more affiliates that meet the requirements of section 272(b). See 47 U.S.C. § 272(a)(1)(B).

we conclude that Bell Atlantic demonstrates that it will operate in accordance with section 272(a).

405. Bell Atlantic has established three section 272 affiliates to provide in-region interLATA services upon gaining section 271 approval: Bell Atlantic Communications, Inc. (BACI), NYNEX Long Distance (NLD), and Bell Atlantic Global Networks, Inc. (BAGNI).¹²⁵⁰ Each affiliate is a wholly-owned subsidiary of Bell Atlantic Corporation, and each is incorporated in Delaware.¹²⁵¹ Bell Atlantic plans to offer interLATA services to residential consumers through BACI, and to serve business customers through NLD. Both BACI and NLD will conduct business under the trade name "Bell Atlantic Long Distance."¹²⁵² One affiliate, BAGNI, will build a telecommunications network and serve BACI and NLD. Bell Atlantic demonstrates that each affiliate has implemented internal control mechanisms to prevent, as well as detect and correct, any noncompliance with section 272.¹²⁵³

406. *Section 272(b)(1) – Operate Independently.* Based on the evidence in the record, Bell Atlantic has demonstrated that it will comply with section 272(b)(1), which requires a section 272 affiliate to "operate independently from the Bell operating company."¹²⁵⁴ The Commission has interpreted the "operate independently" requirement to impose four important restrictions on the ownership and operations of a BOC and its section 272 affiliate: (1) no joint ownership of switching and transmission facilities; (2) no joint ownership of the land and buildings on which switching and transmission facilities are located; (3) no provision by the BOC (or other non-section 272 affiliate) of operation, installation, and maintenance services (OI&M) with respect to the section 272 affiliate's facilities; and (4) no provision of OI&M by the section 272 affiliate with respect to the BOC's facilities.¹²⁵⁵

¹²⁵⁰ Bell Atlantic Application App. A, Vol. 1, Tab 5, Declaration of Maureen C. Breen at paras. 1-3 (Bell Atlantic Breen Decl.); Bell Atlantic Application App. A, Vol. 1, Tab 6, Declaration of Stewart Verge at paras. 2-3 (Bell Atlantic Verge Decl.); Bell Atlantic Application App. A, Vol. 1, Tab 7, Declaration of Susan C. Browning at paras. 4-6 (Bell Atlantic Browning Decl.). For an organizational chart, see Bell Atlantic Browning Decl. Attach. P at 12 (showing Bell Atlantic section 272 affiliates, operating telephone companies, and service organizations).

¹²⁵¹ Bell Atlantic Breen Decl. at para. 4, Attach. A (submitting articles of incorporation for BACI and NLD); Bell Atlantic Verge Decl. at para. 4, Attach. A (submitting articles of incorporation for BAGNI).

¹²⁵² Bell Atlantic Browning Decl. Attach. E & P.

¹²⁵³ Bell Atlantic Application at 54 (citing Bell Atlantic Browning Decl. at paras. 30-34; Bell Atlantic Breen Decl. at paras. 18-24; Bell Atlantic Verge Decl. at paras. 20-26). Among its internal control mechanisms are a corporate compliance program, corporate-wide supervision of affiliate relationships, and periodic employee training. See Bell Atlantic Browning Decl. Attach. E.

¹²⁵⁴ 47 U.S.C. § 272(b)(1); see also *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21981-87; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20787-88; see Bell Atlantic Application at 49-50, 54-55 (describing internal control structure); Bell Atlantic Browning Decl. at para. 8(b)-8(c); Bell Atlantic Breen Decl. at paras. 11 (stating that BACI and NLD own neither domestic telecommunications facilities nor related land and buildings), 13 (stating that BACI and NLD do not jointly own switching and transmission facilities or related land and buildings); Bell Atlantic Verge Decl. at para. 10 (stating that BAGNI will operate, install, and maintain its own network either directly or by contracting with unaffiliated third parties).

¹²⁵⁵ 47 C.F.R. §§ 53.203(a)-203(c); see *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21981-82; see also *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20787.

407. We disagree with AT&T's contentions that the disclosures Bell Atlantic makes on the Internet pursuant to section 272(b)(5) reveal the provisioning of proscribed OI&M services by a Bell Atlantic BOC to a section 272 affiliate.¹²⁵⁶ Bell Atlantic explains that the services noted by AT&T were construction services that do not involve installation or servicing telecommunications equipment.¹²⁵⁷ Our review of Bell Atlantic's Internet postings, its cost allocation manual (CAM), and its independent auditor's reports support Bell Atlantic's explanation.¹²⁵⁸ The Internet disclosures referenced by AT&T refer to certain types of employees and the rates at which such employees were billed to Bell Atlantic's section 272 affiliates. Reading this information in context, it is clear that the employees referenced in the Internet disclosures are not telecommunications technicians and engineers performing OI&M services.¹²⁵⁹

408. *Section 272(b)(2) – Books, Records, and Accounts.* Based on the evidence in the record, Bell Atlantic demonstrates that it will comply with the requirement that its section 272 affiliates "shall maintain books, records, and accounts in a manner prescribed by the Commission which shall be separate from the books, records, and accounts maintained by the [BOCs]."¹²⁶⁰ We note that no party challenges Bell Atlantic's showing.

409. *Section 272(b)(3) – Separate Officers, Directors, and Employees.* Based on the evidence in the record, Bell Atlantic has demonstrated that it will comply with the "separate officers, directors, and employees" requirement of section 272(b)(3).¹²⁶¹ We note that no party challenges Bell Atlantic's showing.

410. *Section 272(b)(4) – Credit Arrangements.* Based on the evidence in the record, Bell Atlantic has demonstrated that it will comply with section 272(b)(4), which prevents a section 272 affiliate from obtaining "credit under any arrangement that would permit a creditor, upon default, to have recourse to the assets of [any Bell Atlantic BOC]."¹²⁶² We note that no

¹²⁵⁶ AT&T Comments at 67-68; AT&T Kargoll Aff. at paras. 24-26 (submitting Bell Atlantic Internet disclosures).

¹²⁵⁷ Bell Atlantic Reply at 43-44.

¹²⁵⁸ See Letter from Gerald Asch, Director, Federal Regulatory Affairs, Bell Atlantic Corp., to Anthony Dale, Attorney, Federal Communications Commission, CC Docket No. 99-295 (filed Oct. 19, 1999) (Bell Atlantic Oct. 19 Ex Parte Letter).

¹²⁵⁹ See AT&T Kargoll Aff. Attach. 2; Bell Atlantic Reply Decl. at paras. 5-7.

¹²⁶⁰ 47 U.S.C. § 272(b)(2); 47 C.F.R. § 53.203(b); *Accounting Safeguards Order*, 11 FCC Rcd at 17617-18; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20786-89; see Bell Atlantic Breen Decl. at para. 6 & Attach. E (submitting corporate accounting policy); Bell Atlantic Verge Decl. at para. 6 & Attach. D.

¹²⁶¹ 47 U.S.C. § 272(b)(3); 47 C.F.R. § 53.203(c); *Ameritech Michigan Order*, 12 FCC Rcd at 20730-31; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20789-90; see Bell Atlantic Browning Decl. at paras. 3(a), 3(b) (stating that Bell Atlantic compared payroll registers of the section 272 affiliates to the records for the operating telephone companies); Bell Atlantic Breen Decl. at para. 5, Attach. B (presenting list of corporate directors), C (presenting list of corporate officers); Bell Atlantic Verge Decl. at para. 5, Attach. B & C.

¹²⁶² 47 U.S.C. § 272(b)(4); 47 C.F.R. § 53.203(d); *Non-Accounting Safeguards Order* at paras. 189-90; see Bell Atlantic Application at 50; Bell Atlantic Browning Decl. at para. 11; Bell Atlantic Breen Decl. at paras. 7-8,

party challenges Bell Atlantic's showing.

411. *Section 272(b)(5) – Affiliate Transactions.* Based on our review of its application, we conclude that Bell Atlantic demonstrates that it will comply with the public disclosure requirements of section 272(b)(5) for transactions between its BOCs and its section 272 affiliates.¹²⁶³ Section 272(b)(5) requires that a section 272 affiliate conduct all transactions with its affiliated BOCs on an arm's length basis.¹²⁶⁴ In addition, the statute requires section 272 affiliates to reduce all such transactions to writing and make them available for public inspection.¹²⁶⁵ Consistent with the Commission's *Accounting Safeguards Order*, Bell Atlantic must ensure that all transactions between its section 272 affiliates (i.e., BACI, NLD, and BAGNI) and any affiliated BOC are posted on the company's Internet homepage within 10 days of the transaction.¹²⁶⁶ To ensure that all affiliate transactions occur at arm's length, Bell Atlantic must abide by the Commission's affiliate transactions rules.¹²⁶⁷ The Commission evaluates the sufficiency of a BOC's Internet disclosures by referring to its ARMIS filings, its cost allocation manuals, and the CAM audit workpapers.¹²⁶⁸

412. AT&T argues that Bell Atlantic failed to post all transactions between its BOCs and its section 272 affiliates on the Internet, and that Bell Atlantic fails to provide sufficient detail

Attach. F (submitting support agreement between holding company and nonregulated lending affiliate), G (submitting promissory note for BACI), H (submitting promissory note for NLD); Bell Atlantic Verge Decl. at 7, Attach. E (submitting promissory note for BAGNI).

¹²⁶³ The Commission has rejected section 271 applications in part because BOCs failed to disclose fully all transactions in a manner consistent with section 272(b)(5) and the Commission's rules. *See Ameritech Michigan Order*, 12 FCC Rcd at 20734-37; *Second BellSouth Louisiana Order*, 13 FCC Rcd 20791-92.

¹²⁶⁴ 47 U.S.C. § 272(b)(5); 47 C.F.R. § 53.203(e).

¹²⁶⁵ Section 272(b)(5) states that the section 272 affiliate "shall conduct *all* transactions with the [BOC] of which it is an affiliate on an arm's length basis with *any such* transactions reduced to writing and available for public inspection." 47 U.S.C. § 272(b)(5) (emphasis added).

¹²⁶⁶ *Accounting Safeguards Order*, 11 FCC Rcd at 17593-94; *Ameritech Michigan Order*, 12 FCC Rcd at 20734-37; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20790-95.

¹²⁶⁷ 47 C.F.R. § 32.27; *Accounting Safeguards Order*, 11 FCC Rcd at 17582-17; *see Second BellSouth Louisiana Order*, 13 FCC Rcd at 20790-95. The Commission's affiliate transactions rules require BOCs to report transactions between regulated and nonregulated affiliates, and to value the cost of affiliate transactions in accordance with a hierarchy of valuation techniques.

¹²⁶⁸ Bell Atlantic Browning Decl. Attach. L; *see Second BellSouth Louisiana Order*, 13 FCC Rcd at 20791-92. In their Automated Reporting Management Information System ("ARMIS") reports, the BOCs provide summary information about their transactions with nonregulated affiliates. *See* ARMIS 43-02 USOA Report, Tables I-2, B-4. In their CAMs, the BOCs disclose the nature, terms, and frequency of their anticipated affiliate transactions. *See* 47 C.F.R. § 64.903; *see also* Bell Atlantic Corp., COST ALLOCATION MANUAL § V (Dec. 1998). Pursuant to the Commission's Part 64 rules, all the BOCs receive annual audits of their ARMIS data conducted by an independent auditor. 47 C.F.R. § 64.904. In addition, the Commission regularly reviews the CAMs and the audit materials related to the independent audits, which show the actual amount of affiliate transactions that occurred in the audited period.

of such transactions.¹²⁶⁹ Although we are concerned about the issues raised by AT&T, Bell Atlantic persuades us that it will comply with section 272(b)(5)'s public disclosure requirement.¹²⁷⁰ To the extent that AT&T's comments and our review of the record revealed minor discrepancies between Bell Atlantic's Internet postings and its regular accounting submissions,¹²⁷¹ we find that Bell Atlantic has submitted satisfactory evidence to explain the inconsistencies.¹²⁷² As Bell Atlantic points out, a variety of circumstances may result in minor differences between ARMIS and CAM disclosures and the section 272(b)(5) Internet postings.¹²⁷³ Furthermore, we find that the value of the posting discrepancies is small, totaling less than the amount of the discrepancies at issue in the *Second BellSouth Louisiana Order*.¹²⁷⁴ Given these factors, we conclude that these isolated instances are not sufficient to show systemic flaws in Bell Atlantic's ability to comply with section 272(b)(5). Finally, we note that Bell Atlantic's Internet postings will undergo a thorough and systematic review in the section 272(d) biennial audit, which will ensure that any failures to post are identified in time for appropriate remedial action.

413. We likewise reject AT&T's assertion that Bell Atlantic's Internet postings do not contain sufficient detail to show that Bell Atlantic will comply with section 272(b)(5).¹²⁷⁵ As required by the Commission's section 272(b)(5) rules, Bell Atlantic discloses "the number and type of personnel assigned to the project, the level of expertise of such personnel, any special equipment used to provide the service, and the length of time required to complete the

¹²⁶⁹ AT&T Kargoll Aff. at paras. 32-51; AT&T Nov. 8 *Ex Parte* Letter at 1-4.

¹²⁷⁰ See AT&T Comments at 69-70; AT&T Reply at 47-48. *But see* Bell Atlantic Reply at 44.

¹²⁷¹ See Bell Atlantic Breen Decl. at para. 14 (citing <<http://www.callbell.com/regreqs2>> and www.callbell.com/regreqs2/index.htm), Attach. I; Bell Atlantic Verge Decl. at paras 14-15 (citing <<http://www.bagn.com/regrequirements.html>>). The working papers of Bell Atlantic's independent auditors show that, in 1998, two Bell Atlantic BOCs provided approximately \$96,000 worth of data services and \$37,790 in voice messaging services to BACI; approximately \$69,000 in property management services to BAGNI; and approximately \$18,000 in real estate services to NLD. See, e.g., Bell Atlantic Corp., COST ALLOCATION MANUAL at App. V-1 (Dec. 1998) (identifying services provided by a Bell Atlantic BOC to its section 272 affiliates).

¹²⁷² See Bell Atlantic Oct. 19 *Ex Parte* Letter.

¹²⁷³ See Bell Atlantic Browning Decl. Attach. L (explaining potential differences in dollar values of posted transactions); Browning Reply Decl. at 8-12, 14; see also Bell Atlantic Oct. 19 *Ex Parte* Letter. *But see* AT&T Reply at 47-48 (criticizing Bell Atlantic's explanations); Letter from Robert W. Quinn, Director - Federal Government Affairs, AT&T Corp., to Magalie Roman Salas, Secretary, Federal Communications Commission (filed Nov. 8, 1999) (AT&T Nov. 8 *Ex Parte* Letter).

¹²⁷⁴ The total value of the discrepancies between Bell Atlantic's Internet disclosures and its other accounting information amounts to approximately \$220,000. When compared to the total volume of affiliate transactions for all three affiliates combined, the discrepancies amount to less than one percent of the total dollar value. By comparison, in the *Second BellSouth Louisiana Order*, we found approximately \$610,000 worth of discrepancies between the BOC's Internet postings and its ARMIS data, which amounted to 7.3 percent of the total dollar value of transactions. *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20792 n.1046. In the *Second BellSouth Louisiana Order*, BellSouth failed to provide explanations regarding its discrepancies, while Bell Atlantic presented explanations in the instant proceeding. See Bell Atlantic October 19 *Ex Parte* Letter at 1-2 & Attach.

¹²⁷⁵ AT&T Kargoll Aff. at paras. 34-40.

transaction.”¹²⁷⁶ Although we are concerned that some descriptions of affiliate transactions may contain ambiguous descriptions of services, we are persuaded that, on balance, Bell Atlantic’s descriptions are sufficiently detailed to facilitate the purchasing decisions of unaffiliated third parties.¹²⁷⁷ In addition, we find that Bell Atlantic has implemented the internal controls and processes needed to identify and correct potential problem areas with its Internet disclosures.¹²⁷⁸ We note that the section 272(d) biennial audit will ensure that Bell Atlantic continues to provide adequate descriptions of its posted transactions because inadequate descriptions will be identified by the Federal-State audit team, and disclosed in the subsequent audit report.¹²⁷⁹

414. Based on the record evidence, we conclude that Bell Atlantic demonstrates that it will comply with the affiliate transactions rules, which is necessary to ensure that all transactions between a BOC and its section 272 affiliate occur at arm’s length.¹²⁸⁰ We note that no party challenges Bell Atlantic’s showing that it values transactions between its BOCs and its section 272 affiliates in accordance with our affiliate transactions rules.

415. *Section 272(c)(2) – Accounting Principles.* Based on the evidence in the record, Bell Atlantic demonstrates that its BOCs account for all transactions with its section 272 affiliates in accordance with the accounting principles designated or approved by the Commission.¹²⁸¹ In the *Accounting Safeguards Order*, we concluded that complying with the Part 32 affiliate transactions rules satisfies the accounting requirements of section 272(c), which pertain to the BOC’s “dealings” with its separate affiliate.¹²⁸² We note that no party challenges Bell Atlantic’s showing.

416. *Section 272(d) – Biennial Audit.* Based on the evidence in the record, we conclude that Bell Atlantic demonstrates that it will comply with section 272(d), which requires an independent audit of a BOC’s compliance with section 272 after receiving interLATA

¹²⁷⁶ *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20793-94; *see Accounting Safeguards Order*, 11 FCC Rcd at 17593-94; *Ameritech Michigan Order*, 12 FCC Rcd at 20735. According to its Internet postings, its CAM, and its ARMIS data, Bell Atlantic did not transfer any assets from a BOC to its section 272 affiliates in 1998.

¹²⁷⁷ *See, e.g.*, BACI Technical Services Agreement – New York, which is located on BACI’s Internet site at: <<http://www.callbell.com/regreqs2/detail.cfm?ContractID=19>>.

¹²⁷⁸ *See* Bell Atlantic Breen Decl. Attach. I; Bell Atlantic Verge Decl. Attach. F; *see also* Bell Atlantic Browning Reply Decl. at paras. 8-12, 16.

¹²⁷⁹ *See* 47 U.S.C. § 272(d) (requiring a joint Federal-State audit of section 272 compliance conducted by an independent auditor).

¹²⁸⁰ *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20794-95; *Accounting Safeguards Order*, 11 FCC Rcd at 17592; 47 C.F.R. § 32.27; *see* Bell Atlantic Browning Decl. at paras. 22-25 & Attach. K-S (presenting various corporate policies and standard operating procedures pertaining to affiliate transactions compliance); Bell Atlantic Breen Decl. at paras. 14-17; Bell Atlantic Verge Decl. at paras. 14-19.

¹²⁸¹ 47 U.S.C. § 272(c)(2); *see* Bell Atlantic Browning Decl. at paras. 22-26 & Attach. K (submitting reports of independent auditors), P (presenting employee training materials related to affiliate transaction compliance).

¹²⁸² 47 C.F.R. § 32.27; *Accounting Safeguards Order*, 11 FCC Rcd at 17586-87; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20785-86.

authorization.¹²⁸³ Because the audit process involves a thorough and systematic evaluation into a BOC's compliance with section 272 and its affiliate relationships, we expect that the section 272(d) biennial audit will address the concerns raised by AARP, Closecall, and others for stringent post-entry oversight of section 272 compliance.¹²⁸⁴

2. Nondiscrimination Safeguards of Section 272

417. *Section 272(c)(1) – Nondiscrimination Safeguards.* Based on the evidence in the record, we conclude that Bell Atlantic demonstrates it will comply with section 272(c)(1), which prohibits a BOC from discriminating in favor of its section 272 affiliate in the “provision or procurement of goods, services, facilities, and information, or in the establishment of standards.”¹²⁸⁵ The Commission's nondiscrimination safeguards require a BOC to, among other things, “provide to unaffiliated entities the same goods, services, facilities, and information that it provides to its section 272 affiliate at the same rates, terms, and conditions.”¹²⁸⁶ Although we agree with AT&T, CERB, and others regarding the broad nature of the nondiscrimination safeguards, we reject their contentions that Bell Atlantic fails to demonstrate compliance with the section 272(c)(1) nondiscrimination safeguards.¹²⁸⁷ As we noted with respect to section 272(b)(5) above, Bell Atlantic posts information about transactions between the BOC and its section 272 affiliates, and thereby provides unaffiliated entities with notice of opportunities to obtain the same goods, services, and facilities at the same rates, terms, and conditions available to the section 272 affiliate. We reject AT&T's assertion that Bell Atlantic failed to show compliance with section 272(c)(1) because Bell Atlantic failed to provide unaffiliated third parties equal opportunities to lease real estate space.¹²⁸⁸ Bell Atlantic persuades us that, with respect to the leases for real estate raised by AT&T, it regularly advertises its real estate listings, and thereby provides unaffiliated third parties with opportunities to lease space provided to its section 272

¹²⁸³ 47 U.S.C. § 272(d); see 47 C.F.R. §§ 53.209-213; see also *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20794; see Bell Atlantic Application at 52; Bell Atlantic Browning Decl. at para. 27 & Attach. P at 36-40 (describing internal controls related to the biennial audit).

¹²⁸⁴ AARP Comments at 1; Closecall Comments at 8 (raising concerns about affiliate structure); ALTS Comments at 72; see also AT&T Reply at 47 (arguing that Bell Atlantic cannot evade its section 272 obligations by chaining transactions through its affiliates); AT&T Nov. 8 *Ex Parte Letter* at 2 (addressing risk of chain transactions).

¹²⁸⁵ 47 U.S.C. § 272(c)(1); *Non-Accounting Safeguards Order*, 11 FCC Rcd at 21997-17; *Second BellSouth Louisiana Order*, 13 FCC Rcd 20796-800. The Commission found that the nondiscrimination safeguards extend to any good, service, facility, or information that a BOC provides to its section 272 affiliate, including administrative services and other non-telecommunications goods and services. *Non-Accounting Safeguards Order*, 11 FCC Rcd at 22003-04.

¹²⁸⁶ *Non-Accounting Safeguards Order*, 11 FCC Rcd at 22000-01.

¹²⁸⁷ ALTS Comments at 69-72; AT&T at 71-73; CERB at 2, 10; Letter from Kristine DeBry, Swidler Berlin Shereff Friedman, LLP, Counsel for CERB, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket 99-295 (filed Nov. 8, 1999) (CERB Nov. 8 *Ex Parte Letter*).

¹²⁸⁸ AT&T Comments at 71-72.

affiliates.¹²⁸⁹

418. *Section 272(e) – Fulfillment of Certain Requests.* Based on the evidence in the record, Bell Atlantic demonstrates that it will comply with section 272(e), which requires Bell Atlantic to fulfill requests for, among other things, telephone exchange and exchange access services from unaffiliated entities within the same time period Bell Atlantic fulfills such requests for its own retail operations.¹²⁹⁰ In addition, section 272(e) also provides that a BOC “shall not provide any facilities, services, or information concerning its provision of exchange access to the [section 272 affiliate] unless such facilities, services, or information are made available to other providers of interLATA services in that market on the same terms and conditions.”¹²⁹¹ Finally, section 272(e) places certain accounting and nondiscrimination requirements on BOCs with respect to exchange access and facilities or services provided to its interLATA affiliate.¹²⁹² We note that no party challenges Bell Atlantic’s showing that it will comply with section 272(e).

3. Joint Marketing Requirements of Section 272

419. *Section 272(g)(1) – Affiliate Sales of Telephone Exchange Access Services.* Based on the evidence in the record, we conclude that Bell Atlantic has demonstrated that it will comply with the joint marketing provisions of section 272(g)(1).¹²⁹³ We reject as inconsistent with Commission precedent AT&T’s contention that Bell Atlantic must submit proposed marketing scripts in order to demonstrate compliance with section 272(g).¹²⁹⁴ Although Bell Atlantic makes no assertions regarding the plans of one section 272 affiliate, BAGNI, to market or sell Bell Atlantic telephone exchange services, we conclude that BAGNI’s evidence of a corporate

¹²⁸⁹ Bell Atlantic Reply at 45; *see* AT&T Comments at 71-73.

¹²⁹⁰ 47 U.S.C. § 272(e)(1); *Non-Accounting Safeguards Order*, 11 FCC Rcd at 22018-22; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20800-01; *see* Bell Atlantic Application at 52-53; Bell Atlantic Browning Decl. at para. 17(d) (citing Bell Atlantic FCC Tariff No. 1, Bell Atlantic FCC Tariff No. 11, NYPSC Tariff No. 918, NYPSC Tariff No. 900). Bell Atlantic demonstrates that it will provide accurate data regarding actual service intervals so that unaffiliated parties can evaluate the performance Bell Atlantic provides itself and its affiliates and compare such performance to the service quality Bell Atlantic provides to competing carriers. Bell Atlantic Browning Decl. at para. 17(e), Attach J; *see id.* at para. 18(a) (showing data that can be used to evaluate whether Bell Atlantic meets its nondiscrimination obligations). Bell Atlantic likewise addresses the accounting requirements of section 272(e) in its application. *See* Bell Atlantic Browning Decl. at para. 19(a) (addressing accounting for amounts charged for access to telephone exchange and exchange access); Bell Atlantic Breen Decl. at paras. 14, 16; Bell Atlantic Verge Decl. at paras. 17-18.

¹²⁹¹ 47 U.S.C. § 272(e)(2).

¹²⁹² 47 U.S.C. §§ 272(e)(3), (e)(4); *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20802-03; *see* Bell Atlantic Application at 53; Bell Atlantic Application at 53; Bell Atlantic Browning Decl. at paras. 19(a), 20; Bell Atlantic Breen Decl. at paras. 14-16; Bell Atlantic Verge Decl. at paras. 17-18.

¹²⁹³ Bell Atlantic Application at 54; Bell Atlantic Browning Decl. at para. 21, Attachment P, 21, 27 (submitting portions of employee training materials); *see also* Bell Atlantic Verge Decl. at paras. 20-26 (describing corporate compliance program); Bell Atlantic Breen Decl. at para. 15; Bell Atlantic Reply at 46-47.

¹²⁹⁴ AT&T Comments at 73-77; AT&T Reply at 48-49; *BellSouth South Carolina Order*, 13 FCC Rcd at 668.

compliance program¹²⁹⁵ and BAGNI's assertions that it plans to provide service only to BACI and NLD¹²⁹⁶ adequately persuade us that Bell Atlantic will operate in accordance with section 272(g)(1) for BAGNI.

420. We decline to adopt the suggestion of Excel to impose conditions on Bell Atlantic that would limit the ability of its section 272 affiliates to resell Bell Atlantic's local exchange service.¹²⁹⁷ Specifically, Excel requests that the Commission require Bell Atlantic either to forego the use of total service resale or to provide a greater discount for total service resale packages provided to competing carriers in New York.¹²⁹⁸ As we recently noted in the *Non-Accounting Safeguards* proceeding, section 272 does not prohibit a section 272 affiliate from providing both local exchange and interLATA services.¹²⁹⁹ We conclude that the need for restrictions on the ability of Bell Atlantic's section 272 affiliate to provide local service is unnecessary at this time, and that the existing section 272 safeguards adequately address the concerns raised by Excel.

421. *Section 272(g)(2) – Bell Operating Company Sales of Affiliate Services.* We conclude that Bell Atlantic demonstrates that it will comply with section 272(g)(2), which prevents a BOC from marketing or selling within its region any interLATA service provided by a section 272 affiliate absent authorization obtained pursuant to section 271(d).¹³⁰⁰ We note that no party challenges Bell Atlantic's assertions or provides evidence to rebut Bell Atlantic's showing.

VII. PUBLIC INTEREST ANALYSIS

A. Overview

422. In addition to determining whether a BOC satisfies the competitive checklist and will comply with section 272, Congress directed the Commission to assess whether the requested authorization would be consistent with the public interest, convenience, and necessity.¹³⁰¹ We conclude that approval of this application is consistent with the public interest. In reaching this determination, we find that compliance with the competitive checklist is, itself, a strong indicator

¹²⁹⁵ Bell Atlantic Verge Decl. at paras. 21-26.

¹²⁹⁶ *See id.* at para. 2.

¹²⁹⁷ Excel Comments at 6-13.

¹²⁹⁸ *Id.* at 7.

¹²⁹⁹ *Non-Accounting Safeguards Third Order on Reconsideration*, FCC 99-242, paras. 22-24; *see also Non-Accounting Safeguards Order*, 11 FCC Rcd at 22055-56.

¹³⁰⁰ 47 U.S.C. § 272(g)(2); *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20804; Bell Atlantic Application at 54; Bell Atlantic Browning Decl. at para. 21 & Attach. P at 21, 27 (submitting portions of employee training materials); *see also Verge Decl.* at paras. 20-26 (describing corporate compliance program); Bell Atlantic Breen Decl. at para. 15; Bell Atlantic Reply at 46-47.

¹³⁰¹ 47 U.S.C. § 271(d)(3)(C). The Commission has offered direction for the benefit of section 271 applicants relating to the meaning and scope of the public interest inquiry. *See generally Second BellSouth Louisiana Order*, 13 FCC Rcd at 20805-08; *Ameritech Michigan Order*, 12 FCC Rcd at 20741-51.

that long distance entry is consistent with the public interest. This approach reflects the Commission's many years of experience with the consumer benefits which flow from competition in telecommunications markets.

423. Nonetheless, the public interest analysis is an independent element of the statutory checklist and, under normal canons of statutory construction, requires an independent determination.¹³⁰² Thus, we view the public interest requirement as an opportunity to review the circumstances presented by the application to ensure that no other relevant factors exist that would frustrate the congressional intent that markets be open, as required by the competitive checklist, and that entry will therefore serve the public interest as Congress expected. Among other things, we may review the local and long distance markets to ensure that there are not unusual circumstances that would make entry contrary to the public interest under the particular circumstances of this application.¹³⁰³ Another factor that could be relevant to our analysis is whether we have sufficient assurance that markets will remain open after grant of the application. While no one factor is dispositive in this analysis, our overriding goal is to ensure that nothing undermines our conclusion, based on our analysis of checklist compliance, that markets are open to competition. As discussed below, we conclude that the public interest would be met by grant of this application.

424. Finally, we note that a strong public interest showing can not overcome a failure to demonstrate compliance with one or more checklist items. The Commission is specifically barred from "limit[ing] . . . the terms used in the competitive checklist,"¹³⁰⁴ or forbearing from requiring compliance with all statutory conditions under section 271.¹³⁰⁵

B. Competition in Local Exchange and Long Distance Markets

425. As set forth below, we conclude that approval of this application is consistent with promoting competition in the local and long distance telecommunications markets.

1. Impact on Local Competition

426. Consistent with our extensive review of the competitive checklist, which embodies the critical elements of market entry under the Act, we find that barriers to competitive entry in the local market have been removed and the local exchange market today is open to competition. We disagree with commenters' arguments that the public interest would be disserved by granting Bell Atlantic's application because the local market in New York has not yet truly been opened to

¹³⁰² In addition, Congress specifically rejected an amendment that would have stipulated that full implementation of the checklist necessarily satisfies the public interest criterion. *See Ameritech Michigan Order*, 12 FCC Rcd at 20747; *see also* 141 Cong. Rec. S7971, S8043 (Jun. 8, 1995).

¹³⁰³ *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20805-06 (the public interest analysis may include consideration of "whether approval . . . will foster competition in all relevant telecommunications markets").

¹³⁰⁴ 47 U.S.C. § 271(d)(4).

¹³⁰⁵ 47 U.S.C. § 160(d).

competition.¹³⁰⁶ Commenters cite an array of evidence which, they argue, demonstrates that the local telecommunications market is not open and that competition has not sufficiently taken hold in New York. For example, commenters point to: the low percentage of total access lines served by competitive LECs;¹³⁰⁷ the concentration of competition in New York City and other urban areas;¹³⁰⁸ minimal competition for residential services;¹³⁰⁹ modest facilities-based investment,¹³¹⁰ and prices for local exchange service at the maximum permissible levels under the price caps.¹³¹¹

427. Congress specifically declined to adopt a market share or other similar test for BOC entry into long distance, and we have no intention of establishing one here.¹³¹² Moreover, pursuant to section 271(c)(2)(B), the Act provides for long distance entry even where there is no facilities-based competition satisfying section 271(c)(1)(A). This underscores Congress' desire to condition approval solely on whether the applicant has opened the door for local entry through full checklist compliance, not on whether competing LECs actually take advantage of the opportunity to enter the market. Although evidence of the type cited by commenters could result from checklist non-compliance or continuing barriers to entry in some circumstances, we have not found this to be the case here. Indeed, commenters do not link these market facts to any sin of omission or commission by Bell Atlantic. We have found nothing in the record to indicate, for example, that the limited competition outside of Manhattan is attributable to a refusal to provide collocation requests outside of Manhattan, or the provision of inferior OSS to competitive carriers upstate. Moreover, while competition for residential end users has proceeded less rapidly than competition for high-volume business end users, we have found that Bell Atlantic has satisfied its statutory obligations and made competitive entry possible in this market sector. Accordingly, we conclude that these indicators do not undermine Bell Atlantic's showing that it has complied with

¹³⁰⁶ See, e.g., AT&T Comments at 78-84, 94-100; MCI WorldCom Comments at 43-45; CPI Comments at 5-19.

¹³⁰⁷ See AT&T Comments at 79-80; AT&T Kelley Aff. at paras. 2-3, 14-33; AT&T Hubbard/Lehr Aff. at para 54 and Attach. 13; CPI Comments at 10-16; KMC Comments at 11; MCI WorldCom Comments at 44; NY Attorney General Comments at 8.

¹³⁰⁸ While Bell Atlantic has offered evidence that it has lost large numbers of access lines to competitors, we recognize that competition may be slender as a percentage of access lines controlled by Bell Atlantic, particularly outside of urban areas. See AT&T Comments at 79-80; KMC Comments at 10; MCI WorldCom Comments at 44; MCI WorldCom Beard/Mayo Decl. at paras. 35-41.

¹³⁰⁹ See ALTS Comments at 68; CPI Comments at 3-5, 10-20; CPI Reply at 2-3; KMC Comments at 11; NY Attorney General Comments at 7-9; TRA Comments at 28-29.

¹³¹⁰ See AT&T Kelley Decl. at paras. 24-32; MCI WorldCom Comments at 44; MCI WorldCom Beard/Mayo Decl. at para. 37; see also Department of Justice Evaluation at 10 ("[g]iven the extent of facilities-based entry in metropolitan New York and other cities in upstate New York, we have no substantial concerns about the ability of facilities-based carriers to enter the market").

¹³¹¹ See AT&T Comments at 80-81; AT&T Bernheim/Ordovery/Willig Aff. at paras. 35-36; AT&T Hubbard/Lehr Aff. at paras. 57-64.

¹³¹² This is consistent with the Commission's approach in prior section 271 orders. See *Ameritech Michigan Order*, 12 FCC Rcd at 20585; see also *BellSouth Reply* at 19. For similar reasons, we decline to require Bell Atlantic to demonstrate, as urged by CPI, that all end users in New York have a "realistic choice" between facilities-based local carriers. See CPI Comments at 10-20.

the competitive checklist.

2. Impact on Long Distance Competition

428. We find that the record confirms our view that BOC entry into the long distance market will benefit consumers and competition if the relevant local exchange market is open to competition consistent with the competitive checklist. As a general matter, we believe that additional competition in telecommunications markets will enhance the public interest. Absent checklist compliance, grant of section 271 authority could potentially harm the long distance market because the BOC would have a unique ability to introduce vertical service packages (*i.e.*, long distance and other telecommunications services bundled with local exchange service). This is not the case here – we find that the local market is open and determine that reasonable assurances exist that the market will remain open. We will not require Bell Atlantic to make a substantial *additional* showing that its participation in the long distance market will produce public interest benefits. We thus decline to address directly the comments and economic studies submitted by Bell Atlantic and by parties opposing Bell Atlantic's application, which seek to demonstrate alternately that Bell Atlantic's entry will have a positive, or a negative, impact on competition in the long distance market.¹³¹³

C. Assurance of Future Compliance

429. As set forth below, we find that the performance monitoring and enforcement mechanisms in place in New York, in combination with other factors, provide strong assurance that the local market will remain open after Bell Atlantic receives section 271 authorization. The Commission previously has explained that one factor it may consider as part of its public interest analysis is whether a BOC would continue to satisfy the requirements of section 271 after entering the long distance market.¹³¹⁴ The standard of review employed by the Department of Justice in evaluating Bell Atlantic's application – whether the local market is fully and *irreversibly* open – also supports this approach.¹³¹⁵ Although the Commission strongly encourages state performance monitoring and post-entry enforcement, we have never required BOC applicants to demonstrate that they are subject to such mechanisms as a condition of section 271 approval.¹³¹⁶ The Commission has, however, stated that the fact that a BOC will be subject to performance monitoring and enforcement mechanisms would constitute probative evidence that the BOC will

¹³¹³ See generally AT&T Hubbard/Lehr Aff. at paras. 28-136; AT&T Bernheim/Ordoover/Willig Aff. at paras. 99-171; AT&T Selwyn Aff. at paras. 4-35; MCI WorldCom Beard/Mayo Decl., Attach. 3; Bell Atlantic Taylor Decl. at paras. 1-78; Bell Atlantic MacAvoy Decl. at paras. 1-122.

¹³¹⁴ See *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20806; see *Ameritech Michigan Order*, 12 FCC Rcd at 20747.

¹³¹⁵ See Department of Justice Evaluation at 7, Schwartz Aff. at paras. 149-192.

¹³¹⁶ These mechanisms are generally administered by state commissions and derive from authority the states have under state law or under the federal Act. As such, these mechanisms can serve as critical complements to the Commission's authority to preserve checklist compliance pursuant to section 271(d)(6). Moreover, in this instance, we find that the extensive collaborative process by which these mechanisms were developed and modified in New York has, itself, helped to bring Bell Atlantic into checklist compliance.

continue to meet its section 271 obligations and that its entry would be consistent with the public interest.¹³¹⁷

430. We also believe that it is important to evaluate the benefits of these reporting and enforcement mechanisms in the context of other regulatory and legal processes that provide additional positive incentives to Bell Atlantic. It is not necessary that the state mechanisms alone provide full protection against potential anti-competitive behavior by the incumbent. Most significantly, we recognize that the Commission's enforcement authority under section 271(d)(6) already provides incentives for Bell Atlantic to ensure continuing compliance with its section 271 obligations.¹³¹⁸ We also recognize that Bell Atlantic may be subject to payment of liquidated damages through many of its individual interconnection agreements with competitive carriers.¹³¹⁹ Furthermore, Bell Atlantic risks liability through antitrust and other private causes of action if it performs in an unlawfully discriminatory manner.¹³²⁰

1. Summary of Performance Reporting and Enforcement Mechanisms

431. The New York Commission has ordered Bell Atlantic to report performance data, on a monthly basis, pursuant to a series of 152 measurements or metrics.¹³²¹ These measurements were developed through the "Carrier-to-Carrier Service Quality" proceeding before the New York Commission, and cover Bell Atlantic's performance on key functions essential to an open, competitive local market: pre-ordering, ordering, provisioning, maintenance and repair, network performance (interconnection trunks), collocation, billing and operator services. Associated with most of these measurements are standards – either benchmarks or retail analogs – also developed through the Carrier-to-Carrier proceeding.¹³²²

432. The New York Commission also has required Bell Atlantic to submit to a comprehensive performance enforcement mechanism upon receiving authorization to provide interLATA services under section 271.¹³²³ The Amended Performance Assurance Plan ("APAP"),

¹³¹⁷ See *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20806.

¹³¹⁸ See *infra* Section VIII.

¹³¹⁹ See Bell Atlantic Application at 71; Bell Atlantic Dowell/Canny Decl. at paras. 8, 125, and Attach. A; AT&T Comments at 94 (recognizing that 32 of Bell Atlantic's 85 interconnection agreements contain liquidated damages provisions).

¹³²⁰ See Bell Atlantic Application at 71 (recognizing that competitive carriers could seek "private remedies under generally applicable statutes, including the treble-damages remedy of the federal antitrust laws").

¹³²¹ See *NYPSC Guidelines Order*, see also *NYPSC Permanent Rule Order*.

¹³²² The New York Commission explained that, wherever possible, it established "parity" standards (a performance level which is the same for competitors as it is for Bell Atlantic's retail operations). See *NYPSC Guidelines Order* at 2. For wholesale functions that do not have retail analogues, the New York Commission established absolute standards, usually a fixed percentage or a fixed period of time. *Id.*

¹³²³ Although the enforcement plans were formally adopted by the New York Commission on November 3, 1999, see *Order Adopting the Amended Performance Assurance Plan and Amended Change Control Plan*, Case Nos. 97-C-0271 and 99-C-0949 at 32 (NYPSC Nov. 3, 1999) (Bell Atlantic Dowell/Canny Reply Decl., Att. A)

along with the Amended Change Control Assurance Plan (“ACCAP”) (collectively, the “enforcement mechanism” or the “enforcement plan”), establish an automatic process under which affected competitors receive bill credits in the event Bell Atlantic fails to satisfy pre-determined performance standards on a set of 122 performance measures – essentially a sub-set of the Carrier-to-Carrier reporting metrics. The procedures and requirements of the Plan are described generally in Bell Atlantic’s application and in detail in submissions made to the New York Commission.¹³²⁴

2. Key Elements of the Enforcement Plan

433. Where, as here, a BOC relies on performance monitoring and enforcement mechanisms to provide assurance that it will continue to maintain market-opening performance after receiving section 271 authorization, we will review the mechanisms involved to ensure that they are likely to perform as promised.¹³²⁵ While the details of such mechanisms developed at the state level may vary widely, we believe that we should examine certain key aspects of these plans to determine whether they fall within a zone of reasonableness, and are likely to provide incentives that are sufficient to foster post-entry checklist compliance. In this instance, we believe that the enforcement mechanisms developed in New York will be effective in practice.¹³²⁶ We base this

(*NYPSC Enforcement Plan Order*), we disagree with commenters who suggest that, consistent with our policy of requiring that applications be final when filed, we may not consider these plans in our public interest analysis. *See, e.g.*, CoreComm Comments at 10; Sprint Comments at 24; AT&T Motion to Strike at 7; *see also* NY Attorney General Comments at 36. These plans were developed through a 16 month process in New York and were submitted to the New York Commission for adoption on September 24, 1999. We take administrative notice of the fact that the plans were adopted virtually unchanged by the New York Commission. *See* AT&T Reply Comments at 38. What is critical to our analysis is that the plans were described in detail in Bell Atlantic’s initial application, and have been subject to extensive comment in this proceeding. Because this aspect of our public interest inquiry necessarily is forward-looking and requires a predictive judgment, this is a situation where it is appropriate to consider commitments made by the applicant to be subject to a framework in the future. Accordingly, this is different from our checklist analysis in which we assess present or past compliance by an applicant.

¹³²⁴ *See* Bell Atlantic Application at 67-71; Bell Atlantic Dowell/Canny Decl., App. A, Vol. 3, Attach. C (Petition for Approval of the Amended Performance Assurance Plan and Amended Change Control Assurance Plan for Bell Atlantic-New York, NYPSC Cases 97-C-0271 and 99-C-0949 (Sept. 24, 1999)); *see also* NYPSC *Enforcement Plan Order* at 3-6; New York Commission Comments at 164-172.

¹³²⁵ As is clear from our discussion of the checklist requirements, we do not base our decision that the checklist has been satisfied on the existence of the New York performance plans. We thus approach our analysis of the New York performance monitoring and enforcement mechanisms from a different angle than the Department of Justice. While we conclude that the checklist has been met, and assess the predicted impact of these monitoring and enforcement mechanisms on Bell Atlantic’s ability to *maintain* compliance with section 271, the Department of Justice has assessed whether these mechanisms will be sufficient to “ensure the rapid *completion* of necessary market-opening measures.” Department of Justice Evaluation at 37 (emphasis added), and Schwartz Aff. at paras. 137-140.

¹³²⁶ Our examination of the New York performance monitoring and enforcement mechanisms is solely for the purpose of determining whether the risk of post-approval non-compliance is sufficiently great that approval of its section 271 application would not be in the public interest. Our analysis has no bearing on the separate question of

predictive judgment on the fact that the plan has the following important characteristics:

- potential liability that provides a meaningful and significant incentive to comply with the designated performance standards;
- clearly-articulated, pre-determined measures and standards, which encompass a comprehensive range of carrier-to-carrier performance;
- a reasonable structure that is designed to detect and sanction poor performance when it occurs;
- a self-executing mechanism that does not leave the door open unreasonably to litigation and appeal;
- and reasonable assurances that the reported data is accurate.

434. Parties to this proceeding have identified numerous criticisms relating to the structure and methodologies of these monitoring and enforcement mechanisms, and suggest a long list of possible improvements. None of these criticisms, however, are sufficient to cause us to conclude that the plan will fail to foster post-entry compliance with the checklist requirements.¹³²⁷ We address each of the major challenges to these plans briefly below.

435. *Total Liability At Risk.* We conclude that the total of \$269 million in potential bill credits placed at risk, on an annual basis, under all components of the performance plans represents a meaningful incentive for Bell Atlantic to maintain a high level of performance.¹³²⁸ We thus disagree with commenters who suggest that \$269 million is insufficient and fails to provide adequate assurance of Bell Atlantic's compliance in the future.¹³²⁹ Most fundamentally, we disagree with a basic assumption made by several commenters: that liability under the Plan must be sufficient, *standing alone*, to completely counterbalance Bell Atlantic's incentive to discriminate.¹³³⁰ The performance plans adopted by the New York Commission do not represent

how the Commission would view and respond to any particular conduct by Bell Atlantic in the *federal* enforcement context.

¹³²⁷ Several parties also urge us to adopt, in the context of this section 271 application, automatic "federal" remedies, in addition to those developed in New York. See Allegiance Comments at 14-17; ALTS Comments at 79; AT&T Reply at 39; Comptel Comments at 47-57; e.spire/Net2000 Comments at 24-25; MCI WorldCom Reply at 30; MediaOne Reply at 17. As discussed more fully below, see *infra* Section VIII, we fully intend to enforce the provisions of section 271 using the enforcement tools set forth in the Communications Act.

¹³²⁸ See *NYPSC Enforcement Plan Order* at 2, 17; Bell Atlantic Application at 69. We reach this number by adding the following components: \$75 million (MOE); \$75 million (MOE "doubling" provisions); \$75 million (Critical Measures); \$34 million (Special Provisions); and \$10 million (ACCAP).

¹³²⁹ See AT&T Comments at 87-88; ALTS Comments at 79; ChoiceOne Comments at 12; CoreComm Comments at 10-11; CPI Comments at 22-23; Focal Comments at 8; KMC Comments at 12-13; MCI WorldCom Comments at 39-40; NY Attorney General Comments at 30-32. Several parties also argue that *any* cap or total limit on liability unnecessarily weakens an enforcement mechanism. See, e.g., ALTS Reply at 26-27; e.spire/Net2000 Comments at 23; Intermedia Comments at 15.

¹³³⁰ See MCI WorldCom Comments at 39-40; MCI WorldCom Ford/Jackson Decl. at 14 (arguing that the APAP must entail liability "equal to or greater than the benefits that BA-NY would receive over time from providing such poor performance," which MCI WorldCom claims would exceed \$600 million per year); NY Attorney General Comments at 31 ("in order to effectively deter certain conduct, sanctions should be much larger than the cost to

the only means of ensuring that Bell Atlantic continues to provide nondiscriminatory service to competing carriers. In addition to the \$269 million at stake under this Plan, as noted above, Bell Atlantic faces other consequences if it fails to sustain a high level of service to competing carriers, including: federal enforcement action pursuant to section 271(d)(6); liquidated damages under 32 interconnection agreements; and remedies associated with antitrust and other legal actions.

436. Nonetheless, we recognize that the level of potential liability under a performance enforcement plan matters, as a plan with relatively low potential liability would be unlikely to provide meaningful incentives to maintain service quality levels. We believe it is useful to compare the maximum liability level to Bell Atlantic's net revenues derived from local exchange service – after all, it is primarily its local service profits that Bell Atlantic would have a theoretical incentive to “protect” by discriminating against competing local carriers.¹³³¹ A “Net Return” figure developed using ARMIS data, which represents total operating revenue less operating expenses and operating taxes, is a reasonable approximation of total profits derived from local exchange service.¹³³² In 1998, Bell Atlantic reported a Net Return of \$743 million in New York: \$269 million would represent 36% of this amount. On the basis of this comparison, we conclude that \$269 million represents a substantial percentage of Bell Atlantic's profits, and agree with the New York Commission that “the dollars at risk in the [APAP] are substantial and should deter [Bell Atlantic's] incentive to provide discriminatory service.”¹³³³

437. We disagree with commenters who suggest that, because the Plan is divided into multiple sub-categories with the overall liability divided into corresponding “sub-caps,” Bell

comply,” which it calculates at \$495 million per year); Cable & Wireless Comments at 16. MCI WorldCom submits a detailed economic study, in which it seeks to calculate with precision the hypothetical benefits Bell Atlantic would derive from certain levels of discrimination, with the purpose of identifying a corresponding “optimal” penalty amount. The New York Commission concluded that a similar study submitted by MCI WorldCom in New York was “flawed” (*NYPSC Enforcement Plan Order* at 18) and, in this proceeding, Bell Atlantic challenges MCI WorldCom's assumptions and methodology. See Bell Atlantic Duncan Reply Decl., Attach. A. Because we do not find it necessary to determine the “optimal” penalty amount for a stand-alone enforcement mechanism, we will not specifically address the details of MCI WorldCom's study, the “flaws” identified by the New York Commission, or Bell Atlantic's counterarguments.

¹³³¹ See MCI WorldCom Ford/Jackson Decl. at paras 22, 49 (suggesting that local service profits represents a meaningful frame of reference in this analysis); see also CPI Comments at 22-23; NY Attorney General Comments at 30-31. While we are using net local revenue as a reference point or yardstick for comparison purposes, we do not suggest that local revenues constitute the *only* relevant figure. We recognize that Bell Atlantic may also derive benefits in other markets (such as long distance) from retaining local market share. See New York Commission Reply, Ex. 7 at 2, n.1.

¹³³² To arrive at a total “Net Return” figure that reflects both interstate and intrastate portions of revenue derived from local exchange service, we combined line 1915 (the interstate “Net Return” line) with a computed net intrastate return number (total intrastate operating revenues and other operating income, less operating expenses, nonoperating items and all taxes). See ARMIS 43-01 Annual Summary Report, Table 1, Cost and Revenue Table (1998).

¹³³³ *NYPSC Enforcement Plan Order* at 18, 32. The New York Commission, in its Evaluation, also expressed its “confiden[ce] that Bell Atlantic-NY, once having earned section 271 approval, has the proper incentive to continue to meet its commitments.” New York Commission Comments at 172.

Atlantic will never face sizable penalties.¹³³⁴ We agree that it is important to assess whether liability under an enforcement mechanism such as the APAP would actually accrue at meaningful and significant levels when performance standards are missed. Indeed, an overall liability amount would be meaningless if there is no likelihood that payments would approach this amount, even in instances of widespread performance failure. We do not believe, however, that the Plan suffers from this flaw. The New York Commission has sought to place sizable penalties on the most critical performance areas, thereby ensuring that Bell Atlantic will incur fixed, certain sanctions if its performance slips in these critical areas. In addition, the New York Commission has retained the authority to re-allocate money within the sub-categories, thereby, in its own words, “dramatically increasing [Bell Atlantic’s] incentives to maintain or improve service in particular areas.”¹³³⁵

438. *Performance Measurements and Standards.* Each performance metric developed through the Carrier-to-Carrier proceeding in New York has a clearly-articulated definition, or “business rule,” which sets forth the manner in which the data is to be collected by Bell Atlantic, lists any relevant exclusions, and states the applicable performance standards. The clarity provided by these business rules will help to ensure that the reporting mechanism provides a “benchmark against which new entrants and regulators can measure performance over time to detect and correct any degradation of service rendered to new entrants.”¹³³⁶ While commenters raise concerns about the details of a handful of specific metrics,¹³³⁷ we note that many of these issues are currently being considered in the ongoing Carrier-to-Carrier proceeding in New York.¹³³⁸ We applaud the role played by the New York Commission in providing a forum for ongoing modification and improvement of the performance metrics.¹³³⁹ This is an important

¹³³⁴ See AT&T Comments at 89; Cable & Wireless Comments at 16; CoreComm Comments at 11; MCI WorldCom Comments at 40-42; Sprint Comments at 26. We also disagree with Sprint and find that the amount at stake under the ACCAP (\$10 million, plus up to \$15 million in penalties “unused” by the APAP) provides reasonably sizable incentive for Bell Atlantic to adhere to change management procedures developed in New York. See Sprint Comments at 31.

¹³³⁵ New York Commission Comments at 166; see also *NYPSC Enforcement Plan Order* at 32 (commenting that this reallocation power “allows the Commission flexibility to ensure that potential loopholes may be closed rapidly and pointedly”).

¹³³⁶ *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20806.

¹³³⁷ See AT&T Comments at 47-48; Choice One Comments at 5; AT&T Pfau/Kalb Decl. at paras 53-62; AT&T Reply at 31; CPI Reply at 13.

¹³³⁸ The New York Commission has explained that questions have arisen about certain performance measurements, and that several of these are currently under further review in the Carrier-to-Carrier proceeding. See New York Commission Comments at 7 n.2 and 46 n.1; *NYPSC Enforcement Plan Order* at 25-26, 30 and 39 n.4. See also Department of Justice Evaluation at 6 (recognizing that the New York Commission “is continuing its efforts to refine [certain] performance measures”).

¹³³⁹ The New York Commission adopted interim guidelines for inter-carrier service quality on March 16, 1998 and, in conjunction with a collaborative process involving working groups and subject-area sub-groups, has reviewed and modified these guidelines on an ongoing basis since that time. See *NYPSC Guidelines Order* at 1-2; *NYPSC Permanent Rule Order* at 1-4; *NYPSC Additional Guidelines Order* at 1-2. Moreover, the New York

feature because it ensures that the Plan can evolve to reflect changes in the telecommunications industry and in the New York market.

439. We also believe that the scope of performance covered by the Carrier-to-Carrier metrics is sufficiently comprehensive,¹³⁴⁰ and that the New York Commission reasonably selected key competition-affecting metrics from this list for inclusion in the enforcement plan.¹³⁴¹ We disagree with commenters who suggest that additional metrics must be added to the plan in order to ensure its effectiveness,¹³⁴² and note that the New York Commission has considered and rejected similar arguments.¹³⁴³ Moreover, we note that the New York Commission has indicated that it will consider adding new metrics, if necessary, in the future.¹³⁴⁴ Indeed, in light of the ongoing development of xDSL-related measurements related to xDSL-capable loops in New York, we are not concerned that the APAP does not contain such measurements at present.¹³⁴⁵ The New York Commission has stated that it expects to adopt measurements addressing xDSL-capable loops once their development is complete.¹³⁴⁶ Accordingly, we expect Bell Atlantic to work with the New York Commission in developing performance measurements for xDSL-capable loops, and to incorporate these measurements into its "Carrier-to-Carrier" reports and the APAP.

440. *Structural Elements of the Plan.* We believe that the structural elements of the

Commission has stated that it "fully expect[s] that metrics will continue to be developed and refined." See New York Commission Reply at 4.

¹³⁴⁰ The New York Commission concluded that the reporting requirements "are comprehensive and will help fulfill our goal of achieving expeditiously an open, competitive local exchange market." *NYPSC Permanent Rule Order* at 3.

¹³⁴¹ See *NYPSC Enforcement Plan Order* at 14-15. In particular, we applaud the New York Commission and Bell Atlantic for addressing the very important issue of change management by designing metrics that measure Bell Atlantic's compliance with its change management processes and give the company incentives to satisfy performance standards in this area.

¹³⁴² AT&T Comments at 91; MCI WorldCom Comments at 43; AT&T Kalb/Pfau Aff. at paras. 205-206 (arguing that every Carrier-to-Carrier metric must have a penalty attached); see also Focal Comments at 7 (the mechanisms fail to address metrics relating to special access services); Sprint Comments at 30-31 (additional metrics should be added to the change control plan).

¹³⁴³ See *NYPSC Enforcement Plan Order* at 14-15; see also New York Commission Comments at 165.

¹³⁴⁴ See *NYPSC Enforcement Plan Order* at 15 (explaining that "[o]nce the [Performance Assurance Plan] is in effect, market conditions will be examined to determine whether metrics should be added or deleted"). The New York Commission also may add metrics to the ACCAP. See Bell Atlantic Dowell/Canny Decl., Attach. C, Ex. 2 at 3 (Amended Change Control Assurance Plan, September 1999).

¹³⁴⁵ See ALTS Comments at 37-38; AT&T Reply at 31; @link Comments at 6; Covad Comments at 33-34.

¹³⁴⁶ See New York Commission Comments at 94-95 ("[r]ecommendations to the NYPSC are expected in December for the adoption of DSL-specific metrics to ensure that [DSL services] can be separately monitored to ensure provisioning at a commercially reasonable level of quality and timeliness"); see also New York Commission Reply Comments, Ex. 7 at 4, n.2.

Plan appear reasonably designed to detect and sanction poor performance when it occurs. The APAP and the ACCAP set forth, in great detail, the processes by which Bell Atlantic's performance is measured and evaluated, the method for determining compliance and non-compliance with respect to individual metrics, and the manner in which noncompliance with individual metrics will translate into bill credits.¹³⁴⁷ Commenters have set forth a long list of specific criticisms, arguing that the Plan: unduly forgives discriminatory conduct,¹³⁴⁸ fails to deter targeted discrimination directed against individual competing carriers,¹³⁴⁹ excessively aggregates performance data and combines metrics, thereby masking unsatisfactory results,¹³⁵⁰ and does not include penalties that escalate with the severity of the performance shortfall.¹³⁵¹ These criticisms, however, do not undermine our overall confidence that the Plan will detect and sanction poor performance when it occurs. We also find it significant that the New York Commission considered and rejected most of these arguments.¹³⁵²

441. *Self-executing mechanism.* We conclude that the performance monitoring and enforcement mechanisms are reasonably self-executing.¹³⁵³ We recognize, however, that several commenters, as well as the Department of Justice, expressed considerable concern that the "exceptions" or "waiver" process built into the Plan could effectively destroy the self-executing aspect of the plan and open the door to extensive delay and litigation.¹³⁵⁴ We agree that a waiver process, if not narrowly limited to a discrete set of circumstances and subject to time constraints, could have such an impact. In this instance, however, we conclude that the waiver process is designed so as to alleviate the concerns noted above. First, the three grounds on which Bell

¹³⁴⁷ See Bell Atlantic Dowell/Canny Decl. at paras. 122-157 and Attach. C (Petition for Approval of Amended Performance Assurance Plan); see also New York Commission Comments, Appendix 1.

¹³⁴⁸ See ALTS Comments at 78 (arguing that the "forgiveness" provision of the Plan would allow Bell Atlantic to "hide discriminatory practices"); AT&T Comments at 92-93; Intermedia Comments at 16; KMC Comments at 12; AT&T Kalb/Pfau Aff. at para. 214.

¹³⁴⁹ See MCI WorldCom Comments at 40; Intermedia Comments at 16; AT&T Pfau/Kalb Decl. at para 209.

¹³⁵⁰ See ALTS Comments at 78 (suggesting that aggregating measures together would result in "offset[ing] poor performance in one performance category with good performance in another category"); AT&T Comments at 92; KMC Comments at 12; MCI WorldCom Comments at 41-42.

¹³⁵¹ See MCI WorldCom Comments at 42; MCI WorldCom Ford/Jackson Aff. at para. 67; AT&T Kalb/Pfau Aff. at para. 217.

¹³⁵² See *NYPSC Enforcement Plan Order* at 12-14; see also New York Commission Reply, Ex. 7 at 3-6.

¹³⁵³ See *NYPSC Enforcement Plan Order* at 11-12. We also note with approval that the APAP "will be enforceable as a New York Commission order," and that failure by Bell Atlantic to comply with the terms of these mechanisms could subject the company to penalties in the amount of \$100,000 per day. See New York Commission Comments at 165, n.1. Complaints alleging that Bell Atlantic is not complying with these state-crafted mechanisms thus would be directed to the New York Commission rather than the FCC.

¹³⁵⁴ See Department of Justice Evaluation at 39-40; Sprint Comments at 30; NY Attorney General Comments at 33-34; e.spire/Net2000 Comments at 23.

Atlantic may seek a waiver review appear to be reasonable and – with one exception¹³⁵⁵ – are defined narrowly under the Plan. The New York Commission has explained that it will consider waiver requests only in “limited, extraordinary circumstances.”¹³⁵⁶ Second, the New York Commission placed time limits on the resolution of waiver requests, which will help to ensure that the Plan functions in a timely and predictable manner.¹³⁵⁷

442. *Data Validation and Audit Procedures.* We note with approval that the performance data used in the enforcement mechanism in New York appears to be subject to regular scrutiny. The New York Commission has independently replicated Bell Atlantic’s performance reports from raw data submitted by Bell Atlantic, in order to identify and investigate any discrepancies, and will continue to do so for the next six months, and possibly longer.¹³⁵⁸ The New York Commission also will perform an annual review of Bell Atlantic’s data and performance measures.¹³⁵⁹ These review and monitoring mechanisms provide reasonable assurance that the data will be reported in a consistent and reliable manner.¹³⁶⁰

443. *Accounting Requirements.* Consistent with our accounting rules with respect to antitrust damages¹³⁶¹ and certain other penalties paid by carriers,¹³⁶² we conclude that Bell Atlantic

¹³⁵⁵ The Plan allows Bell Atlantic to seek a waiver on grounds of “unusual” or “inappropriate” CLEC behavior, listing a handful of examples. We find this category to be vague, and note that it could be used to challenge a very wide range of data. We note, however, that the New York Commission has stated that “waiver relief is intended for limited, extraordinary circumstances,” see *NYPSC Enforcement Plan Order* at 24, and thus we expect that this exception will not be applied expansively.

¹³⁵⁶ *NYPSC Enforcement Plan Order* at 24.

¹³⁵⁷ In its order adopting the APAP, the New York Commission explained that “resolution of a waiver exception request must occur prior to the scheduled payment period.” *NYPSC Enforcement Plan Order* at 24. We understand this to mean that waiver petitions will be resolved expeditiously, such that bill credits due for poor performance in a given month will never be “stayed” by a waiver petition. This interpretation is consistent with the sample waiver processing timeline contained in Bell Atlantic’s petition requesting NYPSC approval of the APAP. See Bell Atlantic 271 Application, Attach. C, Ex. 1 (Amended Performance Assurance Plan, Appendix D at 5) (showing a hypothetical waiver petition being resolved before bill credits for a given month are due).

¹³⁵⁸ See New York Commission Comments at 12, 169 n.1.

¹³⁵⁹ See *id.*; Bell Atlantic Dowell/Canny Decl., Attach. C, Ex. 1 at 17-19. Bell Atlantic has also committed to implement a Quality Assurance Program (more accurately, an “Accuracy Assurance Program”) under which it will document and verify its data in an open, reviewable manner and provide an internal mechanism for investigating and resolving CLEC disputes about the accuracy of reported data. See *id.* at 15.

¹³⁶⁰ MCI WorldCom has commented that this replication commitment is “extremely valuable in enabling CLECs to ensure that metrics are being reported as intended . . . after long distance entry by [Bell Atlantic].” MCI WorldCom Kinard Decl. at 3. AT&T, however, argues that this replication is incomplete. See AT&T Pfau/Kalb Aff. at para. 184.

¹³⁶¹ See *Accounting for Judgments and Other Costs Associated with Litigation*, 12 FCC Rcd 5112 (1997); 47 C.F.R. § 32.7370(d). As a general matter, a carrier’s operating expenses recovered through its rates must be legitimate costs of providing adequate service to ratepayers. See, e.g., *West Ohio Gas Co. v. PUC*, 294 U.S. 63, 74 (1935); *Mountain States Tel. and Tel. Co. v. FCC*, 939 F.2d 1035, 1044 (D.C. Cir. 1991).

should not be permitted to reflect any portion of market adjustments as expenses under the revenue requirement for interstate services of the Bell Atlantic incumbent LEC. Such accounting treatment ensures that ratepayers do not bear, in the form of increased rates, the cost of market adjustments under the APAP and ACCAP in the event Bell Atlantic fails to provide adequate service quality to competitive LECs. We agree with CPI that any other approach would seriously undermine the incentives meant to be created by the Plan.¹³⁶³ We note that the New York Commission has adopted a similar approach at the state level.¹³⁶⁴

D. Other Arguments

444. We recognize that commenters raise several other concerns which, they contend, support a finding that grant of this application is not in the public interest. These arguments do not convince us that grant of this application would be inconsistent with the public interest. Several commenters offer specific allegations that Bell Atlantic has engaged in anti-competitive behavior.¹³⁶⁵ We have previously stated that we will not withhold section 271 authorization on the basis of isolated instances of allegedly unfair dealing or discrimination under the Act.¹³⁶⁶ In this instance, we do not find that the various incidents cited by commenters constitute a pattern of discriminatory conduct that undermines our confidence that Bell Atlantic's local market is open to competition and will remain so after Bell Atlantic receives interLATA authority.¹³⁶⁷ In addition, the City of New York argues that Bell Atlantic's exemption from payment of City franchise fees gives the company an unfair competitive advantage, and thus asks the Commission to require Bell Atlantic to submit to a City franchise arrangement, as a condition of section 271 approval.¹³⁶⁸ We conclude that this franchise arrangement is a matter for initial determination between the City of

¹³⁶² Under the SBC/Ameritech merger, the Commission held that bill credits "shall not be reflected in the revenue requirement of an SBC/Ameritech incumbent LEC." See *Applications of Ameritech Corp. and SBC Communications Inc.*, CC Docket No. 98-141, Memorandum Opinion and Order, Appendix C at para. 34 (rel. Oct. 8, 1999).

¹³⁶³ See CPI Comments at 24.

¹³⁶⁴ *NYPSC Enforcement Plan Order* at 31 ("[Bell Atlantic] will be specifically prohibited from recovering revenue losses attributable to the remedial performance credits given in connection with the [penalty plans]").

¹³⁶⁵ For example, several commenters suggest that Bell Atlantic has engaged in unfair and dilatory tactics in interconnection negotiations. See ICG Comments at 2-7; Ntegrity Comments at 2; Z-Tel Comments at 22. See also Global NAPS Comments at 2-5 (asserting that Bell Atlantic's conduct in resolving ongoing disputes concerning inter-carrier compensation for ISP-bound calls is anticompetitive); but see *Complaint of Bell Atlantic-Delaware, et al. v. Global NAPs, Inc.*, File No. E-99-22, Memorandum Opinion and Order, FCC 99-381 (rel. Dec. 2, 1999) (concluding that challenged sections of a Global NAPs tariff in Massachusetts are unlawful, based on the fact that the Massachusetts Department of Telecommunications and Energy has yet to resolve whether and how the parties' existing interconnection agreement provides for inter-carrier compensation for ISP-bound traffic).

¹³⁶⁶ See *Ameritech Michigan Order*, 12 FCC Rcd at 20749.

¹³⁶⁷ We emphasize that grant of this application *does not* reflect any conclusion that Bell Atlantic's conduct in the individual instances cited by commenters is nondiscriminatory and complies with the company's obligations under the Communications Act.

¹³⁶⁸ See City of New York Comments at 2-4.

New York and Bell Atlantic and, therefore, we decline to address this issue in the context of this Order.

445. Finally, AT&T asserts that Bell Atlantic's provision of National Directory Assistance (NDA) service violates section 272 and "appears to violate" section 271(a).¹³⁶⁹ We note that the Common Carrier Bureau adopted an order finding that Bell Atlantic's provision of NDA service falls within the exception for incidental, interLATA services under section 271(g)(4).¹³⁷⁰ As such, Bell Atlantic may provide this service without prior Commission authorization pursuant to section 271. In addition, the Bureau forbore from applying the separate affiliate requirements of section 272, with the exception of the nondiscrimination requirements of section 272(c)(1), to Bell Atlantic's provision of NDA service. Although it is not clear from the record whether Bell Atlantic was in compliance with the requirements of section 271(g)(4) at the time it filed its section 271 application with the Commission, we find that a temporary period of noncompliance does not warrant a finding that granting this application would not be in the public interest.¹³⁷¹ We note that the Commission released an order (*U S WEST Forbearance Order*),¹³⁷² which placed the BOCs on notice that their NDA services could be considered in-region, interLATA services, on September 27th, only two days before Bell Atlantic filed its 271 application. Moreover, since the issuance of the *U S WEST Forbearance Order*, we find that Bell Atlantic has taken prompt action to restructure its NDA service offering to comply with the Act. Given the particular circumstances present in the instant application, therefore, we find that AT&T's assertions do not provide a sufficient basis for rejecting Bell Atlantic's application.

VIII. SECTION 271(D)(6) ENFORCEMENT AUTHORITY

446. Through section 271, Congress withheld from the BOCs, including Bell Atlantic, authority to provide in-region interLATA service until they satisfy various conditions related to competition in local markets. In this manner, Congress sought to create incentives for BOCs to cooperate with competitors and to accelerate acts facilitating the development of local competition.¹³⁷³ Those incentives may diminish with respect to a given state once a BOC receives authorization to provide interLATA service in that state. The record in this proceeding, for example, evidences considerable concern regarding so-called "backsliding" by Bell Atlantic once

¹³⁶⁹ AT&T Comments at 65-67.

¹³⁷⁰ See *Petition of Bell Atlantic for Forbearance from Section 272 Requirements in Connection with National Directory Assistance Services*, Memorandum Opinion and Order, CC Docket No. 97-172, DA 99-2990 (rel. Dec. 22, 1999).

¹³⁷¹ This determination does not remove the possibility of future enforcement action to the extent that Bell Atlantic may have failed to comply with the Act.

¹³⁷² *Petition of U S WEST Communications, Inc. for a Declaratory Ruling Regarding the Provision of National Directory Assistance*, CC Docket No. 97-172, Memorandum Opinion & Order, FCC 99-133 (rel. Sept. 27, 1999), *recon. pending* (*U S WEST Forbearance Order*).

¹³⁷³ *U S WEST v. FCC*, 177 F.3d 1057, 1060 (D.C. Cir. 1999). As the Department of Justice has observed, section 271 serves a critical market-opening role by "ensuring the BOC has powerful incentives (*i.e.*, the ability to enter the long distance market) to cooperate to open its markets." Department of Justice Evaluation at 38.

it obtains section 271 approval and begins providing in-region interLATA service in New York.¹³⁷⁴ Swift and effective post-approval enforcement of section 271's requirements thus is essential to achieve Congress's goal of maintaining conditions conducive to achieving durable competition in local markets. We describe below the post-entry enforcement framework that will govern now that Bell Atlantic has received authorization to provide interLATA service in New York.¹³⁷⁵

447. *The Commission's Section 271(d)(6)(A) Powers.* Congress included provisions in section 271 to ensure that a BOC continues to comply with the statutory requirements after the Commission approves an application to provide in-region interLATA service. Section 271(d)(6)(A) discusses several actions the Commission is authorized to take should it determine that a BOC "has ceased to meet any of the conditions required for such approval."¹³⁷⁶ After "notice and an opportunity for hearing," the Commission "may":

- (i) issue an order to such company to correct the deficiency;
- (ii) impose a penalty on such company pursuant to title V,¹³⁷⁷ or
- (iii) suspend or revoke such approval.¹³⁷⁸

As the Commission previously has determined, these substantial powers augment the agency's pre-existing enforcement powers, including its authority under sections 206-209 of the Communications Act.¹³⁷⁹

448. *Suspension of Approval to Provide InterLATA Service.* Section 271(d)(6)(A)(iii) authorizes the Commission to suspend approval to provide interLATA service in the event we determine that a BOC has ceased to meet any of the conditions required for approval. This critically important power underscores Congress's concern that BOCs continue to comply with the statute post-entry. Given this evident congressional concern, we will not hesitate to use this

¹³⁷⁴ See, e.g., ALTS Comments at 74-79; AT&T Comments at 81-94; Cable & Wireless Comments at 12-14; CPI Comments at 20-23; CompTel Comments at 27-34; MCI WorldCom Comments at 36-37; Sprint Comments at 23-31; NY Attorney General Comments at 27-36. See also Department of Justice Evaluation at 36-40.

¹³⁷⁵ Of course, this statutory framework would apply whenever a BOC receives section 271 authorization for a particular state.

¹³⁷⁶ 47 U.S.C. § 271(d)(6)(A).

¹³⁷⁷ Specifically, the Commission may impose monetary forfeitures pursuant to Title V by issuing a written notice of apparent liability for forfeiture and providing the subject an opportunity to respond in writing. 47 U.S.C. § 503(b)(4).

¹³⁷⁸ 47 U.S.C. § 271(d)(6)(A).

¹³⁷⁹ *Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as amended*, CC Docket No. 96-149, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 21905, 22066 (1996) (*Non-Accounting Safeguards Order*). See Bell Atlantic Application at 71 ("Any anticompetitive conduct is unthinkable in light of this Commission's powers under section 271(d)(6)(A). That provision allows the Commission to enforce the requirements of section 271 with penalties, up to and including possible revocation of long distance authority."); see also Bell Atlantic Reply at 60.

power – and employ it quickly – in appropriate circumstances.

449. We take this opportunity to elaborate on how we intend to implement the “suspension” power under section 271(d)(6)(A)(iii). Specifically, we envision issuing an order similar in effect to the “stand-still” order the Commission issued recently in another context involving section 271.¹³⁸⁰ Such a stand-still order would not only prohibit a non-compliant BOC from enrolling additional subscribers for interLATA service, but also could prohibit the BOC from all marketing and promotion of interLATA service. This status would continue until the record is clear that the specified deficiency has been corrected for a sufficient length of time and the stand-still order is dissolved. Such an action involving Bell Atlantic in New York would thus freeze Bell Atlantic’s interLATA subscriber base as of the date of the order.¹³⁸¹

450. Swift action in this area will further Congress’s goal to ensure that markets remain open post-entry. Section 271(d)(6)(A) authorizes the Commission to suspend interLATA approval “after notice and an opportunity for hearing.” The Commission previously has determined that this language does not require formal, trial-type evidentiary proceedings before an administrative law judge.¹³⁸² Section 271(d)(6)(A) does not contain the requisite “*on the record* after opportunity for an agency hearing” language which triggers trial-type evidentiary hearings under sections 553 and 554 of the Administrative Procedure Act (APA).¹³⁸³ Nor is there any reason to believe that Congress intended section 271(d)(6) to require trial-type hearings independently of the APA.¹³⁸⁴ We thus conclude that generally we may exercise the suspension power of section 271(d)(6)(A)(iii) without holding time-consuming formal, trial-type evidentiary hearings. Rather, we envision expeditious paper proceedings.

451. With respect to this application, any diminution in performance below levels deemed sufficient in this order may expose Bell Atlantic to possible enforcement action under section 271(d)(6), including suspension of authorization to provide service. For instance, our finding of checklist compliance with respect to collocation is predicated on Bell Atlantic’s demonstration that it provisions collocation within the 76-day provisioning interval established by

¹³⁸⁰ See *AT&T Corp. v. Ameritech Corp.*, File No. E-98-41, Memorandum Opinion and Order, 13 FCC Rcd 14508 (1998) (*Ameritech Stand-Still Order*) (stand-still order issued pursuant to 47 U.S.C. § 154(i) temporarily preventing Ameritech from enrolling additional customers in, and marketing and promoting, a “teaming” arrangement with Qwest Corporation pending a decision concerning the lawfulness of the program); see also *United States v. Southwestern Cable Co.*, 392 U.S. 157 (1968) (affirming Commission’s authority to impose a stand-still order pursuant to 47 U.S.C. § 154(i)).

¹³⁸¹ Service to existing interLATA subscribers would not be interrupted. See *Ameritech Standstill Order*.

¹³⁸² See *Non-Accounting Safeguards Order*, 11 FCC Rcd at 22077.

¹³⁸³ 5 U.S.C. §§ 553 and 554 (emphasis added). See *AT&T v. FCC*, 572 F.2d 17, 22-23 (2nd Cir.) (where statute does not require hearing “on the record,” APA does not require trial-type evidentiary hearing), *cert. denied*, 439 U.S. 875 (1978); *United States v. Florida East Coast Railway Co.*, 410 U.S. 224, 234-38 (1973).

¹³⁸⁴ For example, the 90-day deadline in section 271(d)(6)(B) for resolving complaints concerning failures by a BOC to meet conditions required for approval suggests that Congress did not intend to afford BOCs trial-type hearings in all post-approval enforcement proceedings. See *Non-Accounting Safeguards Order*, 11 FCC Rcd at 22077.

the New York Commission 95 percent of the time. We are prepared to institute suspension proceedings in the event of a decrease in this on-time provisioning rate that we believe demonstrates that Bell Atlantic is no longer in compliance with that checklist item. Although we do not attempt to catalogue here all possible ways in which Bell Atlantic may come out of compliance, we emphasize that we view suspension as a potential remedy in any instance where other disincentives have failed to deter decreased performance by Bell Atlantic.

452. *Complaints.* In addition to FCC-initiated enforcement actions (such as forfeitures, suspensions, and revocations), Congress provided for the expeditious review of complaints concerning failure by a BOC to meet the conditions required for section 271 approval.¹³⁸⁵ Such complaints may include requests for damages.¹³⁸⁶ The Commission will consider and resolve those complaints alleging violations of section 271 as well as the Commission's rules and orders implementing the statute. Complaints involving a BOC's alleged noncompliance with specific commitments the BOC may have made to a state commission, or specific performance monitoring and enforcement mechanisms imposed by a state commission, should be directed to that state commission rather than the FCC.¹³⁸⁷

453. *Conclusion.* As these statutory provisions demonstrate, obtaining section 271 authorization is not the end of the road for Bell Atlantic in New York. Congress deemed satisfaction of section 271's requirements at a single moment in time insufficient to ensure continuing competition in local markets. In order to ensure that conditions conducive to local competition in New York are not ephemeral, the statute mandates that Bell Atlantic continue to meet "the conditions required for . . . approval" of its application. Working in concert with the New York Commission, we intend to monitor closely Bell Atlantic's post-entry compliance and to enforce vigorously the provisions of section 271 using the various enforcement tools Congress provided us in the Communications Act. We require that Bell Atlantic provide us with the monthly Carrier-to-Carrier performance data reports that it provides to the New York Commission for at least one year from the date of the release of this order, so that we can review Bell Atlantic's performance to ensure continued compliance with the statutory requirements.

IX. CONCLUSION

454. For the reasons discussed above, we grant Bell Atlantic's application for authorization under section 271 of the Act to provide in-region, interLATA services in the state of New York.

X. ORDERING CLAUSES

455. Accordingly, IT IS ORDERED that, pursuant to sections 4(i), 4(j), and 271 of the

¹³⁸⁵ 47 U.S.C. § 271(d)(6)(B); 47 C.F.R. § 1.736; *Implementation of the Telecommunications Act of 1996, Amendment of Rules Governing Procedures to Be Followed When Formal Complaints Are Filed Against Common Carriers*, CC Docket No. 96-238, Report and Order, 12 FCC Rcd 22497, 22610-12 (1997).

¹³⁸⁶ *Non-Accounting Safeguards Order*, 11 FCC Rcd at 22066.

¹³⁸⁷ *See supra* para 441.

Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 271, Bell Atlantic New York's application to provide in-region interLATA service in the State of New York filed on September 29, 1999, IS GRANTED.

456. IT IS FURTHER ORDERED that the motion to strike filed by AT&T Corp. on November 22, 1999, IS DENIED.

457. IT IS FURTHER ORDERED that the motion to strike filed by Covad Communications Company on December 17, 1999, IS DENIED.

458. IT IS FURTHER ORDERED that this Order SHALL BECOME EFFECTIVE January 3, 2000.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

APPENDIX A: LIST OF COMMENTERS

Commenter	Abbreviation
1. @Link Networks	(@Link)
2. American Association of Retired Persons	(AARP)
3. AT&T Corporation	(AT&T)
4. Adelphia Business Solutions	(Adelphia)
5. Allegiance Telecom, Inc.	(Allegiance)
6. Alliance for Public Technology	(APT)
7. American Council of the Blind, American Foundation for the Blind, National Association of the Deaf, Telecommunications for the Deaf, Inc., and World Institute on Disability	(ACB)
8. Association for Local Telecommunications Services	(ALTS)
9. Cable and Wireless, Inc.	(C&W USA)
10. Cablevision Lightpath, Inc.	(Lightpath)
11. Choice One Communications, Inc.	(Choice One)
12. City of New York	
13. Closecall America, Inc.	(Closecall)
14. Coalition to Ensure Responsible Billing	(CERB)
15. Competition Policy Institute	(CPI)
16. Competitive Telecommunications Association	(CompTel)
17. Consortium for School Networking	(CoSN)
18. Consumer Federation of America	(CFA)
19. CoreComm Limited and CoreComm New York, Inc.	(CoreComm)
20. Covad Communications Company	(Covad)
21. Destek Networking Group, Inc.	(Destek)
22. DSL.net, Inc.	(DSL.net)
23. E.Spire Communications, Inc. & Net 2000 Communications Services, Inc.	(E.Spire)
24. Excel Communications, Inc.	(Excel)
25. Focal Communications Corporation of New York	(Focal-NY)
26. General Services Administration	(GSA)
27. Global NAPS, Inc.	
28. ICG Telecom Group, Inc.	(ICG)
29. Intermedia Communications, Inc.	(Intermedia)
30. Keefe, Barbara, MainePOINT Project Director University of Maine System	
31. Keep America Connected et. al	
32. KMC Telecom, Inc.	(KMC)
33. League of United Latin American Citizens, Brent Wilkes	(LULAC)
34. MCI WorldCom, Inc.	(MCI)
35. National ALEC Association	(NALA)

36.	National Association of Partners in Education	(NAPE)
37.	National Black Chamber of Commerce	(NBCC)
38.	National Consumers League	(NCL)
39.	National Small Business United	(NSBU)
40.	Nextlink New York, Inc.	(NEXTLINK)
41.	Network Access Solutions	(NAS)
42.	New England Conference of Public Utilities Commissioners (NECPUC)	
43.	NorthPoint Communications, Inc.	(NorthPoint)
44.	Ntegrity Telecontent Services, Inc.	(Ntegrity)
45.	Omnipoint Communications, Inc.	(Omnipoint)
46.	Organization of Chinese Americans, Inc.	(OCA)
47.	Organizations Concerned about Rural Education	(OCRE)
48.	Prism Communication Services, Inc.	(Prism)
49.	RCN Telecom Services, Inc.	(RCN)
50.	Rhythms Netconnections, Inc.	(Rhythms)
51.	Santo, Virginia	
52.	Sprint Communications Company, L.P.	(Sprint)
53.	State of New York Attorney General, Eliot Spitzer	
54.	New York Public Service Commission	(NYPSC)
55.	Telecommunications Resellers Association	(TRA)
56.	Teligent, Inc.	(Teligent)
57.	United Seniors Health Cooperative	(USHC)
58.	Z-Tel Communications, Inc.	(Z-Tel)

REPLY COMMENTS

Commenter	Abbreviation
1. AT&T Corporation	(AT&T)
2. Allegiance Telecom, Inc.	(Allegiance)
3. Association for Local Telecommunications Services	(ALTS)
4. BellSouth	
5. Communications Workers of America	(CWA)
6. Competition Policy Institute	(CPI)
7. Conversent Communications, LLC	(Conversent)
8. Covad Communications Company	(Covad)
9. DSL.net, Inc.	(DSL.net)
10. Focal Communications Corporation of New York	(Focal)
11. Keep America Connected et. al	
12. Level 3 Communications, LLC	(Level 3)
13. MCI WorldCom, Inc.	(MCI)
14. MediaOne Group, Inc.	(MediaOne)
15. National Association of Partners in Education	(NAPG)
16. National Council on the Aging	(NCOA)
17. National Education Association of New York	(NEA/NY)
18. Network Access Solutions	(NAS)
19. New York Public Service Commission	(NYPSC)
20. NorthPoint Communications, Inc.	(NorthPoint)
21. OmniPoint Communications, Inc.	(OmniPoint)
22. Prism Communication Services, Inc.	(Prism)
23. RCN Telecom Services, Inc.	(RCN)
24. Rhythms Netconnections, Inc.	(Rhythms)
25. State of New York Attorney General, Eliot Spitzer	
26. Teligent, Inc.	(Teligent)
27. U S WEST Communications, Inc.	(US WEST)

APPENDIX B: STATISTICAL METHODOLOGY

1. In this appendix, we discuss the statistical methodology and test statistics that Bell Atlantic employed in its application. We find that the modified z-test that Bell Atlantic uses for measurements with large sample sizes is an appropriate test. We also find that the tests that Bell Atlantic uses for measurements with small sample sizes, the binomial and t-tests, and the permutation tests, are also appropriate tests. We note that, in so concluding, we do not preclude the use of other statistical tests that have been developed in collaborative proceedings in other states. Finally, we discuss how we will use the z-scores provided in the Carrier to Carrier reports to determine if a difference in performance is statistically significant. We conclude that a 95 percent confidence level is the appropriate threshold to use for a determination of statistical significance.

2. When making a parity comparison, statistical analysis is a useful tool to take into account random variation in the metrics.¹ We note that random variation is inherent in the incumbent LEC's process of providing interconnection and access to unbundled network elements. Our concern is primarily that the process that the incumbent LEC employs be nondiscriminatory. Thus, the incumbent LEC could have a provisioning process that is identical in its ability to provide the same function to retail customers and to competitive LECs, but because of random factors outside the control of the BOC, the average completed interval could vary for retail customers and competitive LECs from month to month, such that for one particular month, the metric for competitors would show a longer average interval than would the metric for Bell Atlantic's retail customers. Thus, metric results showing weaker performance to competitors could be due to random variation in the measures, even though the process is inherently nondiscriminatory. Therefore, the use of statistical analysis to take into account random variation in the metrics is desirable.²

3. Statistical tests can be used as a tool in determining whether a difference in the measured values of two metrics means that the metrics probably measure two different processes, or instead that the two measurements are likely to have been produced by the same process. This can be done using traditional hypothesis testing.³ Hypothesis testing involves testing to determine which of two hypotheses, usually called the null and the alternative hypotheses, is likely to be correct.⁴ Usually this means devising a statistical test to determine whether the null hypothesis

¹ Statistical testing can be used, but is not necessary, for metrics using benchmarks.

² It would be unreasonable to expect a particular performance metric to always show *ex post* equal or better performance for service to a requesting carrier, compared to that provided to the incumbent LEC's customers. Such a requirement, if implemented, would demand that the incumbent LEC provide *ex ante* superior service to a requesting carrier, in order to ensure that random variation does not cause performance to the requesting carrier to drop accidentally below the level needed for a determination of parity.

³ Other methods of testing are possible, such as the use of Bayesian estimation techniques. We will not discuss those methods here. See John Neter, William Wasserman, and G.A. Whitmore, *Applied Statistics* at ch. 27-28 (4th ed., 1993).

⁴ Researchers usually call the hypothesis they are trying to prove the alternative hypothesis. The null hypothesis is the hypothesis which they are trying to determine whether to reject. Ramakant Khazanie, *Statistics in a World of Applications* 495 (4th ed., 1997).

can be rejected, given the data available.⁵ If the data is not consistent with the null hypothesis, then we reject the null hypothesis, and accept the alternative hypothesis.⁶ The null hypothesis here would be the hypothesis that the two processes are the same, so that the measurements reflect different observations taken from the same (or identically performing) processes.⁷ The alternative hypothesis asserts that the two processes are different.

4. In *Second BellSouth Louisiana Order*, we encouraged BOCs to submit data allowing us to determine if any detected differences in performance are caused by random variation in the data.⁸ In its application, Bell Atlantic has presented us with performance data, as well as a statistical test and its corresponding test statistic (called z-scores) that can be used to determine whether a detected difference between the wholesale and retail metrics is statistically significant. Bell Atlantic has been required to utilize this statistical methodology in reporting its performance to New York as part of the Carrier-to-Carrier proceeding.⁹

5. The statistical test that is used depends on the kind of metric being tested, and the number of observations or "sample size" for that metric. The Carrier to Carrier guidelines specify that there are two kinds of metrics, "measured" and "counted."¹⁰ Measured metrics are averages or means of observations (for example, Average Completed Interval).¹¹ Proportionate (counted) metrics measure the proportion or percentage of a group of observations that meet some criterion (for example, Percentage of Appointments Missed).¹²

⁵ Devising a statistical test usually involves creating a test statistic and then comparing it to some critical value.

⁶ See Khazanie, *supra* n.4 at ch. 9.

⁷ Statisticians would say that the observations are a sample taken from the population. The population is the theoretical set of values obtained if an infinite number of observations were taken of the underlying process. Therefore the population mean is the theoretical mean produced by the process, while the sample mean is the measured mean. Khazanie, *supra* n.4 at 5-6; Neter, Wasserman, and Whitmore, *supra* n.3 at 235-36, 248-49; Alexander Mood, Franklin Graybill and Duane Boes, *Introduction to the Theory of Statistics* 219-31 (3rd ed., 1974).

⁸ *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20659 and n.274.

⁹ Bell Atlantic Dowell/Canny Decl. at para. 112, and Attach. B, App. K.

¹⁰ Bell Atlantic Dowell/Canny Decl. Attach. B, App. K. The use of different formulas for statistical testing for measured and proportionate (counted) metrics is recommended in statistical textbooks. See Khazanie, *supra* n.4 at 538-48; Neter, Wasserman, and Whitmore, *supra* n.3 at ch. 14. To be consistent with textbook usage, we will refer to "counted" metrics as "proportionate."

¹¹ Any metric measuring average times is a measured metric. The sample mean, also called the average or the arithmetic mean, is defined as the sum of the observations, divided by the number of observations. Mathematically it is $m = \sum X_i / N$, where X_i are the observations, and N is the number of observations. Khazanie, *supra* n.4 at 77-79, 234-35; Neter, Wasserman, and Whitmore, *supra* n.3 at 71, 248-49.

¹² Proportionate metrics are generally said to have a binomial distribution. Neter, Wasserman, and Whitmore, *supra* n.3 at 363-65. Competitive LECs have suggested that there is a third kind of metric involved called rates. Rates are measures that involve the division of two numbers (for example, the trouble rate). Letter from Robert Quinn, Director-Federal Government Affairs, AT&T, to Magalie Roman Salas, Secretary, Federal

6. The statistical tests used by Bell Atlantic were initially proposed by Local Competition Users Group (LCUG), a group of competitive LECs.¹³ The test LCUG advocated for large sample sizes is commonly known as the "modified z-test", which uses the "modified z statistic."¹⁴ The modified z-test uses only the incumbent LEC's standard deviation, and not the competitive LECs' standard deviation, in calculating the z statistic.¹⁵ It is a variation of the standard textbook z-test, which uses the standard deviations for both the incumbent LEC's and competitive LECs' observations.¹⁶ In its application Bell Atlantic presents us with z-scores, which

Communications Commission, CC Docket No. 99-295 Attach. at 13 (Local Competition Users Group, Statistical Tests for Local Service Parity, version 1.0) (filed December 17, 1999) (LCUG Statistical Tests for Local Service Parity). In theory rates can exceed 1, unlike proportions. For example, more than one trouble could be reported for each line, so the trouble rate (which is the number of troubles divided by the number of lines) could be greater than one. Rates are classified as proportionate (counted) metrics by Bell Atlantic, and there are no special formulas for rates used in this application, so we will not discuss formulas for rates here.

¹³ The z and t tests to be used for measured and proportionate variables were agreed upon by the Carrier-to-Carrier Group. They were proposed by LCUG and agreed to by Bell Atlantic. LCUG Statistical Tests for Local Service Parity; Bell Atlantic Dowell/Canny Decl. at para. 112, and Attach. B, App. K.

¹⁴ Bell Atlantic Dowell/Canny Decl. Attach. B, App. K. It is also sometimes known as the "LCUG modified z-test." The only known published discussion of the modified z-test is in Cavell Brownie, Dennis D. Boos, and Jacqueline Hughes-Oliver, "Modifying the *t* and ANOVA *F* Tests When Treatment Is Expected to Increase Variability Relative to Controls," *Biometrics* 46, 259-66 (1990). AT&T Pfau/Kalb Aff., Attach. 2, "AT&T's Responses to FCC's Questions Dated April 12, 1999", at 3.

¹⁵ Bell Atlantic Dowell/Canny Decl. Attach. B, App. K. The standard deviation is the square root of the variance. The sample variance is the sum of the squares of the differences between the mean and the observations, divided by the number of observations minus one. For measured metrics the sample variance is: $s^2 = \sum (m - X_i)^2 / (N - 1)$, where s^2 is the sample variance, m is the sample mean, X_i are the observations, and N is the number of observations. For proportionate metrics the sample variance is: $s^2 = N * P * (1 - P)$, where P is the proportion. Khazanie, *supra* n.4 at 257; Neter, Wasserman, and Whitmore, *supra* n.3 at 82-83, 363-71; Mood, Graybill, and Boes, *supra* n.7 at 229.

¹⁶ Assuming the means have *identical* but unknown variances, and the sample size is large, the standard z-test for a difference in means between two populations, stated in terms of competitive LEC and incumbent LEC means, is $z = (m_c - m_i) / (s_p * \text{SQRT} [1/N_c + 1/N_i])$, where m_c = competitive LEC sample mean, m_i = incumbent LEC sample mean, s_p = pooled standard deviation (either uses the observations of both populations, or combines the standard deviations of the two populations), N_c = number of competitive LEC observations, and N_i = number of incumbent LEC observations. The test statistic is normally distributed, so the critical value is obtained from the standard normal distribution. If the sample size is small and the populations are normal, then the standard test is a t-test, using the same test statistic, but the test statistic has a t distribution with $N_i + N_c - 2$ degrees of freedom. Khazanie, *supra* n.4 at 540-41, 563; Neter, Wasserman, and Whitmore, *supra* n.3 at 397-402. The normal and standard normal distributions, t-statistics, and critical values are discussed below at *infra* para. 9 and n.17, 26, 31.

If the variances are assumed to be unknown and *different*, and the sample size is large, then the standard z-test uses the test statistic $z = (m_c - m_i) / \text{SQRT} [s_c^2/N_c + s_i^2/N_i]$, where s_c = competitive LECs' standard deviation and s_i = incumbent LEC's standard deviation. The test statistic is normally distributed, and the standard normal distribution is used to determine the critical value. Khazanie, *supra* n.4 at 538-40, 563. If the sample size is small and the populations are normal, however, then the problem is known as the Behrens-Fisher problem (or the Behrens problem or the Fisher-Behrens problem), which is considerably more complicated to solve. Hamparsum Bozdogan and Donald E. Ramirez, "An Adjusted Likelihood-Ratio Approach to the Behrens-Fisher Problem," *Communications in Statistics: Theory and Methods*, 15 (8) at 2405 (1986); Brownie, Boos, and Hughes-Oliver, *supra* n.14 at 259-60. One solution is to use the Aspin-Welch test, using the same test statistic as for the large

are the test statistic used to perform the z-test.

7. The modified z-test for a difference in means between two populations, assuming the means are normally distributed, used for measured metrics, is:¹⁷

$$z = (m_C - m_I) / (s_I * \text{SQRT} [1/N_C + 1/N_I])$$

where m_C = competitive LEC sample mean, m_I = incumbent LEC sample mean, s_I = incumbent LEC's standard deviation, N_C = number of competitive LEC observations, and N_I = number of incumbent LEC observations. z is the test statistic ("z-score") that results from this calculation.

8. The modified z-test for a difference in proportions between two populations, used for proportionate metrics, is:¹⁸

$$z = (P_C - P_I) / \text{SQRT} [P_I(1 - P_I) (1/N_C + 1/N_I)]$$

where P_C = competitive LEC sample proportion, P_I = incumbent LEC sample proportion, N_C = number of competitive LEC observations, N_I = number of incumbent LEC observations, and z is the resulting z-score.

9. The z-test involves comparing the z-score for a particular metric with a critical value (call it z_C) to determine if we can reject the (null) hypothesis that the same process generated the Bell Atlantic and competing carrier means. The critical value z_C is chosen based on a particular desired confidence level (call the confidence level C).¹⁹ If the z-score is less than this

sample size test, but here the test statistic has a t distribution, with a complicated calculation of the degrees of freedom. Acheson J. Duncan, *Quality Control and Industrial Statistics* 616-617 (5th ed., 1986); William H. Beyer, *CRC Standard Mathematical Tables* 525 (26th ed., 1987).

¹⁷ Bell Atlantic Dowell/Canny Decl. Attach. B, App. K. Bell Atlantic calls this a t-test. The t-test uses Student's t distribution to determine the critical value. For large sample sizes, this is approximately equivalent to doing a z-test, because for sample sizes of greater than 30 observations, the t distribution has approximately the same distribution as the standard normal distribution. With a t-test, the critical value varies according to the degrees of freedom, which depend on the sample size. Since Bell Atlantic is using a fixed critical value, it is effectively using a z-test. The formula for calculating the test statistic is effectively the same for both kinds of tests. Khazanie, *supra* n.4 at 410-413, 521; Neter, Wasserman, and Whitmore, *supra* n.3 at 913; *see infra* n.31. The formula for the test statistic can be more simply described as the difference in means divided by the standard error (Bell Atlantic calls the standard error the "sampling error" in the Carrier to Carrier metric reports), or $(m_C - m_I) / S.E.$ Neter, Wasserman, and Whitmore, *supra* n.3 at 266, 290-91; LCUG Statistical Tests for Local Service Parity at 7-8.

¹⁸ Bell Atlantic Dowell/Canny Decl. Attach. B, App. K. We note that the standard z-test for a difference in proportions is $z = (P_C - P_I) / \text{SQRT} [P_P(1 - P_P) (1/N_C + 1/N_I)]$, where P_C = competitive LEC sample proportion, P_I = incumbent LEC sample proportion, P_P = pooled sample proportion, N_C = number of competitive LEC observations, and N_I = number of incumbent LEC observations. Khazanie, *supra* n.4 at 546-47, 563; Neter, Wasserman, and Whitmore, *supra* n.3 at 408-12.

¹⁹ As noted above, the critical value for a z-test is taken from tables based on the standard normal distribution. *See supra* n.16.

critical value ($z < z_c$), we reject the null hypothesis, and accept the alternative hypothesis that the processes for serving retail and competing carriers' customers are different. We would then say that the test indicates the measured difference in metric values is statistically significant.²⁰ If the confidence level is C , then the probability of mistakenly rejecting the null hypothesis when it is true would be $1-C$ (call this α).²¹ Statisticians call α , the probability of mistakenly rejecting the null hypothesis, the probability of a Type I error.²² The confidence level can be interpreted as our confidence that we have not mistakenly rejected the null hypothesis (i.e., found a difference to be statistically significant when it is not).²³ Thus if we use the 95 percent confidence level for a one-tailed test,²⁴ the critical value (taken from tables) is -1.645 , and there is a 5 percent probability that a statistically significant difference will be detected when the process in fact is the same.²⁵

10. Z-tests, including the modified z-test and the standard z-test, are only appropriate if the distribution of the mean (or of the proportion, for proportionate measures) is normal.²⁶ Even for metrics whose observations are not normally distributed, the mean should be normally distributed if the sample size is large enough, according to the Central Limit Theorem.²⁷ Usually

²⁰ In New York the tests have been set up so that z-scores that indicate worse performance for competing carriers are negative. Thus if the critical value is -1.645 , only z-scores that are less, such as -2 or -3 , would yield statistically significant results.

²¹ For example, if the confidence level C is 95 percent (0.95), then α is 5 percent (0.05).

²² While falsely rejecting the null hypothesis (i.e., falsely finding that the BOC's processes of serving retail and competitors' customers are different) is called a Type I error, falsely accepting the null hypothesis when it is not true (i.e., falsely finding that the BOC's processes are identical) is called a Type II error. The probabilities of a Type I error and a Type II error are commonly referred to by the Greek letters α (alpha) and β (beta), respectively. Khazanie, *supra* n.4 at 498; Neter, Wasserman, and Whitmore, *supra* n.3 at 319-20. Usually statisticians choose one hypothesis to be the null hypothesis because falsely rejecting it (Type I error) is considered more serious than falsely accepting it (Type II error), so controlling α is more important than controlling β . Khazanie, *supra* n.4 at 499, 506; Neter, Wasserman, and Whitmore, *supra* n.3 at 320; Mood, Graybill, and Boes, *supra* n.7 at 411.

²³ Statistical tests virtually never determine anything with certainty. There is always a certain probability of being wrong and choosing the incorrect hypothesis. Statistical tests are devised to minimize this probability of being wrong, i.e., to keep the probabilities of Type I and Type II errors at a minimum.

²⁴ The rationale for using a one-tailed test is described below. *See infra* para. 18.

²⁵ This means that, if a 95 percent confidence level is used for a statistical test, when the null hypothesis is true, 95 percent of the time we will correctly choose the null hypothesis. Meanwhile there will be a 5 percent chance that a statistical test will show a statistically significant difference. This is caused by random variation in the data. One way to interpret this is that out of every 100 measurements, on average five should show statistically significant differences, even with identical processes serving retail and competing LECs' customers.

²⁶ A normal distribution is sometimes referred to as a Gaussian distribution. It is often described as having a "bell-shaped" curve. A standard normal distribution is a normal distribution that has been transformed such that its mean is zero and standard deviation is one. Khazanie, *supra* n.4 at 281, 294-96.

²⁷ The Central Limit Theorem is a powerful theorem in statistics. It says that under most circumstances, the distribution of the mean will approach a normal distribution for a large enough sample size, even if the distribution of the population from which the mean is drawn is not normal. Khazanie, *supra* n.4 at 344-45; Neter, Wasserman, and Whitmore, *supra* n.3 at 267-68; Mood, Graybill, and Boes, *supra* n.7 at 233-36.

it is assumed that a sample size of 30 or more is sufficient for it to be appropriate to use the z-test for measured metrics.²⁸ For proportionate metrics, it is generally assumed that a z-test can be used if the sample size is large enough such that $N * P \geq 5$ or $N * (1-P) \geq 5$.²⁹

11. For metrics with small sample sizes, Bell Atlantic is using the binomial test, t-test, and the permutation test. For proportionate measures with small sample sizes, defined as $N * P * (1-P) < 5$, where N is the number of observations and P is the proportion, Bell Atlantic will use a binomial test to test whether the difference in proportions is statistically significant.³⁰ For measured metrics with small sample sizes (less than 30 observations), Bell Atlantic is temporarily using a t-test, which assumes the population is normally distributed, or close to a normal distribution.³¹ However, a non-parametric test should be used if the population is not normally distributed. Non-parametric tests do not assume the data or the mean have a particular distribution. Bell Atlantic is committed to using a permutation test, which is one kind of non-parametric test, to determine if differences in performance between Bell Atlantic retail customers and competitive LECs are statistically significant, once it is able to implement it for all metrics.³²

12. Unlike standard z-tests, the modified z-test assumes that the incumbent LEC and

²⁸ Textbooks are vague about what the minimum sample size should be to use a large sample test like the z-test on measured metrics, but 30 is often cited as appropriate. Textbooks generally agree, however, that at 30 observations and greater, the t-test can be replaced by the z-test, for distributions that are approximately normal. See, e.g., Khazanie, *supra* n.4 at 413, 521, 539; Neter, Wasserman, and Whitmore, *supra* n.3 at 913; Duncan, *supra* n.16 at 150. See *supra* n.17. Doubts about whether a sample size of 30 is sufficient for measured metrics have been raised by AT&T in other proceedings. AT&T Pfau/Kalb Aff. Attach. 3, at 4-5. We note that KPMG used 100 as the threshold for using permutation testing in their test analysis of Bell Atlantic's metrics. KPMG Final Report at POP8 IV-176-77. The parties in this proceeding have agreed to use 30 as the minimum sample size for use of a z-test, and there is insufficient evidence in the record for us to reject this choice. Bell Atlantic Dowell/Canny Decl. Attach. B, App. K. The minimum sample size needed before a z-test should be used generally depends on the distribution of the underlying observations, and, in particular, how skewed it is. Neter, Wasserman, and Whitmore, *supra* n.3 at 296.

²⁹ Khazanie, *supra* n.4 at 262-64; Neter, Wasserman, and Whitmore, *supra* n.3 at 368-69.

³⁰ Bell Atlantic Dowell/Canny Decl. Attach. B, App. K. KPMG used a hypergeometric test (also known as Fisher's Exact Test) for its analysis when the number of observations is less than 10,000, for comparing two proportions. KPMG Final Report at POP8 IV-177. For a discussion of the binomial and hypergeometric distributions and tests, which are similar, see Khazanie, *supra* n.4 at 246-64; Neter, Wasserman, and Whitmore, *supra* n.3 at ch. 7.

³¹ The t-test is similar to a z-test. Unlike a z-test, it is used for small sample sizes, when the population is assumed to be normal, and the variance is not known. The t-test uses the same formula for the test statistic as the z-test (see *supra* para. 7), but instead of obtaining the appropriate critical value from a table of the standard normal distribution, the critical value has to be taken from the tables for the t distribution, taking into account the appropriate degrees of freedom (i.e., number of observations). Note that the t-test yields about the same result as a z-test for sample sizes of 30 or more. Since z-tests are easier to do, they are usually used for large sample sizes. See *supra* n.17; Khazanie, *supra* n.4 at 410-413, 521; Neter, Wasserman, and Whitmore, *supra* n.3 at 335-36, 402-03, 913.

³² Bell Atlantic says it will initially use a t-test until it is able to run a permutation test in "an automated fashion." Bell Atlantic Dowell/Canny Decl. Attach. B, App. K.

competitive LEC variances are the same under parity (the null hypothesis), but not necessarily so under the alternative hypothesis.³³ With this test, unlike a standard z-test, z-scores will not fall if competitive LECs' standard deviations rise.³⁴ While it is a test of a difference of means, it will also be more likely to show a statistically significant difference if the competitive LEC variance is larger.³⁵ This means this will also serve as a weak test for a difference of variances.

13. We find the modified z-test, the binomial test, the t-test, and the permutation test to be reasonable tests for statistical significance, for measured and proportionate measures. All parties in the New York Commission collaborative hearings have agreed to the use of these tests, and these tests have been adopted for use in the Carrier-to-Carrier measures and the Performance Assurance Plan.³⁶ Moreover, no commenters in this proceeding have objected to the use of the modified z-test, the t-test, the binomial test, or the permutation test. These tests are efficient in their ability to detect differences in means or proportions that are not caused by random fluctuation, while minimizing the likelihood of falsely concluding the variation may be due to underlying discrimination. They appear to be relatively powerful tests.³⁷ We find the modified z-test (t-test for small sample sizes) to be a reasonably efficient test to determine whether a difference in means or proportions is statistically significant. We further find that the two nonparametric tests proposed, the binomial and the permutation tests, are both fairly standard

³³ In other words, it assumes: $H_0: \mu_I = \mu_C$ and $\sigma_I^2 = \sigma_C^2$, and $H_A: \mu_I \neq \mu_C$ or $\sigma_I^2 \neq \sigma_C^2$, where μ is the population (theoretical) mean for the incumbent I and competitive LEC C, σ^2 is the variance, and H_0 and H_A are the null and alternative hypotheses, respectively. Brownie, Boos, and Hughes-Oliver, *supra* n.14 at 260; LCUG Statistical Tests for Local Service Parity at 8-9. There are no standard textbook z-tests for these hypotheses. There are standard z-tests for a test of difference of means which assume that the incumbent and competitive LEC variances are always the same, or that the variances are always different. See Khazanie, *supra* n.4 at 563; Neter, Wasserman, and Whitmore, *supra* n.3 at 538-42, 563; *supra* n.16.

³⁴ In a standard z-test, if the competitive LECs' standard deviation rises, so will the standard error (the denominator in the z statistic), causing the z statistic to fall, even if the difference in the means stays constant. This will not happen with the modified z, since its standard error does not directly depend on the competitive LECs' standard deviation.

³⁵ If the competitive LEC variance (and standard deviation) is large, then the competitive LEC means m_C will be much more variable. Since the standard error for the modified z does not depend on the competitive LEC standard deviation, unlike the standard z, the modified z will be more likely to find that a difference in means is statistically significant. AT&T Pfau/Kalb Aff., Attach. 2, "AT&T's Responses to FCC's Questions Dated April 12, 1999" at 3-4.

³⁶ Bell Atlantic Dowell/Canny Decl. at para. 112, and Attach. B, App. K, and Attach. C, Ex. 1, App. D; AT&T Pfau/Kalb Aff. at para. 54.

³⁷ Statisticians define the power of a test as its ability to correctly determine when the alternative hypothesis is true, while keeping fixed the probability of falsely rejecting the null hypothesis, for every possible alternative hypothesis (or Power=1- β while α is fixed, for all H_A). A more powerful test has a lower β , for the same α and H_A . Neter, Wasserman, and Whitmore, *supra* n.3 at 339-47; Mood, Graybill, and Boes, *supra* n.7 at 406-11; William H. Greene, *Econometric Analysis* 156-57 (3rd ed., 1997). Therefore, these tests are more powerful if they are better able to detect differences in means when the processes serving retail customers and competitors are truly different, while maintaining the same probability of falsely finding a difference when the processes are, in fact, the same. The modified z has been shown to be a more powerful test than a standard z under the hypotheses outlined above (*supra* n.33), using power curves. Brownie, Boos, and Hughes-Oliver, *supra* n.14 at 261-63.

tests to use when the samples are small. The permutation test is a standard nonparametric test used to test for a difference in means for small samples.³⁸ We note that the binomial test is considered to be an exact test for proportionate metrics, such that it is the most powerful test possible.³⁹

14. We will rely on the results of the tests and their associated test statistics that Bell Atlantic has presented to us with this application. However, we do not rule out the use in other section 271 applications of alternative statistical tests that are of similar power and efficiency. For measures where the New York Commission has identified retail analogues, we will use the modified z-scores presented by Bell Atlantic to determine if a difference in performance provided to competitive LECs' and Bell Atlantic's retail customers is statistically significant. As discussed below, we will employ a 95 percent confidence level one-tailed test, which yields a critical value (or minimum threshold z-score) of -1.645 .⁴⁰ We note that the New York Commission has adopted this confidence level and critical value for its determination of performance scores of -2 for the Performance Assurance Plan.⁴¹

15. Therefore we will treat all z-scores that are positive, or are larger than -1.645 , as evidence of nondiscrimination.⁴² Positive z-scores indicate that competitive LEC customers received better performance than Bell Atlantic retail customers. Z-scores between zero and -1.645 , such as a score of -1 , indicate that competitive LECs received on average poorer service than Bell Atlantic retail customers, but that there is a significant likelihood that Bell Atlantic's process of serving both sets of customers was identical, and the negative score was due to random chance. In these cases the difference would not be considered statistically significant, and we would conclude that Bell Atlantic has met its burden of demonstrating nondiscrimination. Z-scores of less than -1.645 , such as a score of -2 or of -3 , would be viewed as statistically significant. Only in the last case would we then conduct a further inquiry into whether the difference is large enough to be deemed discriminatory.

16. The Carrier-to-Carrier guidelines have set no minimum sample size, so that statistical tests are reported even if the sample size is just one observation.⁴³ We make no

³⁸ Permutation tests are classified as a bootstrap method. Bootstrap methods involve repeated resampling of the original data to generate the statistical results of interest. A.C. Davison and D.V. Hinkley, *Bootstrap Methods and Their Applications* at chs. 1, 4 (1997); H. Scheffe, *The Analysis of Variance* 313-18 (1959).

³⁹ Duncan, *supra* n.16 at 608, 973-75.

⁴⁰ See *infra* para. 17. The Carrier-to-Carrier metrics are set up in such a way that negative scores indicate that competitive LECs are receiving worse performance than Bell Atlantic customers, while positive scores indicate the opposite. See Bell Atlantic Dowell/Canny Decl. Attach. C, App. D at 1.

⁴¹ The plan also provides for performance scores of -1 , which represent a confidence level of 79 percent. The adjustment used in the plan of erasing a -1 if followed by zeros in two following months effectively raises the confidence level to 90 percent for -1 's that are not erased. Bell Atlantic Dowell/Canny Decl. at paras. 128-29, and Attach. C, App. E at 1.

⁴² Note that a "larger" negative score is actually closer to zero, so -1 is larger than -2 .

⁴³ Bell Atlantic Dowell/Canny Decl. Attach. B, App. K.

determination here as to whether it is reasonable to have a minimum sample size for statistical testing. We believe, however, that the data should be reported for all sample sizes, so that we will have some information about performance for all services provided.⁴⁴ We note that for some kinds of orders, such as those for collocations or for high capacity lines like DS3s, small numbers of observations are possible for a given month. The importance and large revenues involved for each observation makes it important for us to have information about these orders.

17. When we look at the differences in metric values, we will assume that parity exists unless the competitive LEC scores are worse than those for the BOC, and the difference is statistically significant at the 95 percent confidence level for a one-tailed test.⁴⁵ We use the 95 percent confidence level because it is a commonly used standard, and because it gives us a reasonable likelihood of detecting variations in performance not due to random chance, with few false conclusions that variations are not due to random chance.⁴⁶ At the 95 percent confidence level, even under parity an average of 5 percent of the tests should fail (this is the probability of a Type I error).⁴⁷ At higher confidence levels this probability would be lower, but then the probability of not detecting unexplained variations in performance if they do exist (the probability of a Type II error) would increase. The 95 percent confidence level appears to be a fair compromise. We do not comment here on AT&T's proposal to choose a confidence level of 85 percent, which it says will balance the probability of Type I and Type II errors.⁴⁸ We find that AT&T has not put sufficient evidence on the record for us to determine that setting the confidence level at 85 percent⁴⁹ will in fact balance the probability of Type I and Type II errors.⁵⁰

⁴⁴ For metrics with observations excluded from their measurement, the number of observations excluded should also be reported, to improve our ability to determine how accurately the metric measures the universe of orders or customers.

⁴⁵ A difference in metric values that is statistically significant, however, does not necessarily mean that the BOC's service is discriminatory. We will examine the totality of the evidence before making a determination whether the BOC is providing parity.

⁴⁶ Khazanie, *supra* n.4 at 506; Neter, Wasserman, and Whitmore, *supra* n.3 at 298. We note that Bell Atlantic argues that the 95 percent confidence level is appropriate. Bell Atlantic Dowell/Canny Decl. Attach. B, App. K; Bell Atlantic Duncan Reply at para. 36-38.

⁴⁷ Type I and Type II errors are described above. *See supra* para. 9.

⁴⁸ AT&T argues that choosing a critical value to balance the probabilities of Type I and Type II errors is desirable, because it balances the interests of BOC and competitive LECs by setting equal the chances of falsely finding discrimination and of falsely missing discrimination. While acknowledging that the critical value to achieve this balancing ("balancing critical value") will depend on the number of BOC and competitive LEC observations, they argue that using a fixed critical value based on an 85 percent confidence level is a reasonable approximation of the balancing critical value, given typical competitive LEC sample sizes. AT&T Pfau/Kalb Aff. at paras. 88-93 and n.97 and Attach. 2 at 27-30.

⁴⁹ This would mean using a critical value for the z-test of 1.04.

⁵⁰ AT&T's proposal to balance the Type I and Type II error probabilities does appear to have the attractive feature that the interests of the incumbent LEC and the competitive LECs are given equal weight, so that the probabilities of falsely concluding the incumbent LEC may be discriminating and of missing existing discrimination are balanced (so $\alpha=\beta$). Such an approach could be used in future section 271 applications. We

18. We accept Bell Atlantic's use of a one-tailed statistical test. We find a one-tailed test appropriate because we are only concerned with *inferior* performance provided by the incumbent LEC to the competitive LEC. Therefore we are only testing to determine whether inferior performance that is being provided by the incumbent LEC to a competitive LEC is statistically significant.⁵¹ We note that the New York Commission has approved the use of a one-tailed test, and no commenters object to its use.⁵²

19. For metrics that have no retail analogue, Bell Atlantic presents us with a benchmark level adopted by the New York Commission, and no statistical comparison is employed. According to the Carrier to Carrier guidelines, Bell Atlantic would fail a benchmark test if performance to competing carriers falls below the benchmark level.⁵³ We accept Bell Atlantic's use of benchmarks without a statistical test being employed. We make no determination here whether it would be better to employ a statistical test or a straight comparison. We accept,

would be more likely to accept use of such an approach if the state commission and parties have agreed on its use, particularly since there are details that need to be worked out before it is used. For example, the relevant alternative hypothesis must be agreed upon. We note that the New York Commission has not accepted AT&T's proposal. Bell Atlantic argues that AT&T's proposal is not standard and is difficult to implement. Bell Atlantic Duncan Reply at paras. 36-38.

⁵¹ The alternative is to use a two-tailed test to determine whether an incumbent LEC's performance to competitive LECs is either *inferior* or *superior* to the performance that it provides itself. Our analysis does not take into account whether superior performance is being provided. We are unable to determine how much superior performance in one metric or for one month could offset inferior performance in another metric or for another month.

⁵² Bell Atlantic Dowell/Canny Decl. Attach. B, App. K. The use of passing scores in some months to offset negative scores in other months is used in the Performance Assurance Plan to lower the probability of Bell Atlantic making payments under parity. Bell Atlantic Dowell/Canny Decl. at paras. 128-29. *See supra* n.41. This is one reasonable method of reducing the probability of a Type I error.

⁵³ Bell Atlantic Dowell/Canny Decl. Attach. C, Ex. 1 at 4 and App. C. *See supra* Section III.C.2.

however, the use of a direct comparison, which we are presented with here.

APPENDIX C: ANALYSIS OF AVERAGE COMPLETED INTERVALS FOR NON-DISPATCH ORDERS USING CARRIER TO CARRIER AND GERTNER/BAMBERGER STUDY DATA

1. In this appendix we adjust the reported Average Completed Interval data for competing carriers' orders to correct for the factors Bell Atlantic cites. In this manner, we can make a proper comparison of the Bell Atlantic retail and competing carrier intervals. According to Bell Atlantic, the disparity between retail and wholesale Average Completed Intervals for non-dispatch orders is due to two factors: (1) the improper coding by competing carriers of some "W" coded orders, when they request longer intervals than the standard interval; and (2), competing carriers' customers requesting a mix of services that have longer standard intervals associated with them, compared to the mix of services requested by Bell Atlantic's retail customers.¹ Using the Gertner/Bamberger study's results, it is possible to see whether correcting for these factors would explain the evident difference between Bell Atlantic retail and wholesale Average Completed Intervals in the reported Carrier to Carrier metrics for non-dispatch orders.² As set forth below, we find that, after accounting for those factors, a half day difference between wholesale and retail Average Completed Intervals remains for UNE-P orders, and for resale orders, a quarter day difference remains for July and August, while the intervals are about equal in June.

a. Analysis of UNE-P Orders

2. We make the following calculations. The data in the Gertner/Bamberger study allows us to estimate the Average Completed Interval for competing carriers' properly coded "W" orders, and make an adjustment for the differences in order mix. The calculations we make, and the resulting differences that we find for non-dispatch UNE-P orders (measured in days), are summarized in the Table below.

¹ Bell Atlantic Dowell/Canny Decl. at paras. 62, 65-66; Bell Atlantic Gertner/Bamberger Decl. at paras. 7-12.

² The Gertner/Bamberger study provides us with no information about the impact of the factors they discuss on dispatch orders, so we are unable to make the same adjustments for Average Completed Intervals for dispatch orders.

Estimated Difference in Average Completed Intervals for Non-dispatch UNE-P Orders³

	June			July			August		
	BA	CLEC	Diff	BA	CLEC	Diff	BA	CLEC	Diff
Carrier to carrier metrics data	1.25	3.20	-1.95*	0.99	2.55	-1.56*	1.07	1.91	-0.84*
Using properly "W" coded CLEC orders	1.25	1.13	0.12	0.99	1.31	-0.32	1.07	2.36	-1.29
Adjustment to CLEC data for difference in standard intervals		+0.53			+0.04			-0.62	
CLEC data revised for alleged biases	1.25	1.68	-0.43*	0.99	1.35	-0.36*	1.07	1.74	-0.67*

3. The top line in the table is the Average Completed Interval data reported in the Carrier to Carrier report for both Bell Atlantic retail orders and competing carriers' ("CLEC") orders, which Bell Atlantic claims is flawed because of improper "W" coding and the order mix problem. The second line compares the Bell Atlantic retail interval from the Carrier to Carrier report with the Average Completed Interval data from the study for properly "W" coded competing carriers' orders. The third line shows the adjustment made to the competing carriers' measured intervals to account for differences in the average standard intervals, caused by the order mix problem. The bottom line compares the adjusted competing carriers' data, which has been corrected for the "W" coding and order mix problems, with the Bell Atlantic retail data. The table shows that the Average Completed Interval for competing carriers is much smaller after these corrections are made for the "W" coding and order mix problems. Specifically, the difference between Bell Atlantic retail and competing carriers' orders is about half a day, and is statistically significant.⁴

³ Sources are Carrier to Carrier metrics, Bell Atlantic Dowell/Canny Decl. Attach. D; Bell Atlantic Gertner/Bamberger Decl. at Table 4; Bell Atlantic Gertner/Bamberger Reply Decl. at Table 2. The Bell Atlantic retail numbers used for comparison with the study data for CLECs were taken from the carrier to carrier metrics. The bottom row includes an adjustment to the CLEC average completed interval to take into account the different lengths of the average standard intervals (listed in the third row). The calculation of the CLEC intervals in the bottom row involved taking the study's estimate of the interval for only properly coded orders from Table 4 (2.36 days in August) and adding the difference in average standard intervals between retail and CLEC orders caused by the different order mixes, taken from Table 2 of the Reply (1.84-1.22=0.62 days in August), to get the revised CLEC interval (2.36-0.62=1.74). The column "Diff" contains the differences between Bell Atlantic and CLEC intervals. Results that appear to be statistically significant are marked with an asterisk. See *infra* n.8.

⁴ Statistical significance is determined by calculating a z-score, which is the difference in the means divided by the standard error (called "sampling error" by Bell Atlantic), and then examining whether the z-score is less than -1.645. In order to determine whether our estimated differences in Average Completed Intervals are statistically significant, the standard error must be recalculated. The standard error used here differs from the value published in the Carrier to Carrier report because the number of CLEC orders in that report was used in its calculation, and that number was inflated because of the number of miscoded orders included in it. The standard error is: $SE = s_1 \sqrt{1/N_c + 1/N_1}$, where s_1 is the standard deviation for Bell Atlantic, N_c is the number of CLEC observations, and N_1 is the number of observations for Bell Atlantic. For our calculations s_1 and N_1 are the same as in the Carrier to Carrier report. We adjust the published N_c to remove miscoded orders from the count. This was done using the

b. Analysis of Resale Orders

4. Although the Carrier to Carrier data is disaggregated between business and residential orders, the Gertner/Bamberger study data is not. In order to perform our analysis, we aggregated the business and residential Carrier to Carrier data. We then used the data from the Gertner/Bamberger study to estimate the Average Completed Interval for competing carriers' properly coded "W" orders, and make an adjustment for the differences in order mix, as we did above for UNE-P orders. The calculations we make to the competing carriers data, and the resulting differences that we find for non-dispatch resale orders (measured in days), are summarized in the Table below.

Estimated Difference in Average Completed Intervals for Non-dispatch Resale Orders⁵

	June			July			August		
	BA	CLEC	Diff	BA	CLEC	Diff	BA	CLEC	Diff
Carrier to carrier metrics data ⁶	0.96	1.90	-0.94*	1.01	1.59	-0.58*	1.06	1.58	-0.52*
Using properly "W" coded CLEC orders	0.96	0.86	0.10	1.01	1.10	-0.09	1.06	1.15	-0.09
Adjustment to CLEC data for difference in standard intervals		+0.07			+0.19			+0.10	
CLEC data revised for alleged biases	0.96	0.93	0.03	1.01	1.29	-0.28*	1.06	1.25	-0.19*

5. As evidenced by the bottom line of this table, the differences in Average Completed Intervals for resale orders between competing carriers and Bell Atlantic's retail customers are much smaller than before the correction. In fact, the Average Completed Intervals are about equal in June for wholesale and retail orders.⁷ In July and August, the differences are

percentage of orders that were miscoded, which was provided in the right column of Table 1, in Bell Atlantic Gertner/Bamberger Reply. So, for example, in August for UNE-P there were 25,270 Bell Atlantic orders (N_i) and Bell Atlantic's standard deviation was 2.35 (s_i). There were 10,642 CLEC orders, of which 45.9 percent were miscoded, leaving 5,757 orders correctly coded (N_c). The result is a standard error of 0.034. The calculated standard error for July was 0.034, and for June was 0.043. The resulting z-scores are -10.1, -10.7 and -19.5, for June, July, and August, all of which are statistically significant.

⁵ Sources are Carrier to Carrier metrics, Bell Atlantic Dowell/Canny Decl. Attach. D; Bell Atlantic Gertner/Bamberger Decl. at Table 4; Bell Atlantic Gertner/Bamberger Reply Decl. at Table 2. The Bell Atlantic retail numbers were aggregated from the Carrier to Carrier metric data on business and residential orders, to allow comparison with the study's numbers for CLECs. For the calculations of the adjusted CLEC numbers. See *supra* n. 4. Results that appear to be statistically significant are marked with an asterisk. See *infra* n.8.

⁶ Both retail and CLEC data are aggregated for both business and residential orders.

⁷ The measured difference of 0.03 days is not likely to be statistically significantly different from zero. See *infra* n.8.

about a quarter day, but are, nevertheless, statistically significant.⁸

⁸ Calculations of statistical significance were made using the same formulas as in n.4, except that calculating an aggregate standard error was more difficult for resale orders because the standard deviations are provided only in disaggregated form, for business and residential orders. The business and residential numbers of observations were added to yield the total numbers of observations for Bell Atlantic (N_B) and CLECs (N_C). The aggregate Bell Atlantic standard deviation was approximated by taking the weighted average of the business and residential standard deviations, weighted by the number of observations. This should yield a standard deviation close to the true standard deviation for the pooled set of observations, if the means for business and residential customers are close together. The means are close for August (1.07 for business versus 1.06 for residential) and for July (0.99 for business versus 1.01 for residential), and the calculated standard error for August is 0.049, and for July is 0.044. The means are not close for June (1.25 for business versus 0.94 for residential), but the Average Completed Intervals show that competing carriers received better service than retail customers in June. The calculated z-scores are -3.9 for August, and -6.3 for July, both of which are statistically significant. If we use July or August's standard errors, it is apparent the June difference of $+0.03$ days is not statistically significantly different from zero.