D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94 -- Phase 3

Consolidated Petitions of New England Telephone and Telegraph Company d/b/a NYNEX, Teleport Communications Group, Inc., Brooks Fiber Communications, AT&T Communications of New England, Inc., MCI Communications Company, and Sprint Communications Company, L.P., pursuant to Section 252(b) of the Telecommunications Act of 1996, for arbitration of interconnection agreements between NYNEX and the aforementioned companies.

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TABLE OF CONTENTS

PHASE 3 ORDER

I. INTRODUCTION

This is a proceeding being held pursuant to the federal Telecommunications Act of 1996 ("the Act") and regulations issued thereunder by the Federal Communications Commission ("FCC") in its First Report and Order dated August 8, 1996.[1] The Act and the FCC regulations are designed to facilitate the introduction of competition in the provision of telecommunications services throughout the United States. The Act recognized that many of the physical facilities and operating systems needed to provide local exchange service in a given geographic area are owned and controlled by the incumbent local exchange carrier ("ILEC") and that it would be difficult and inefficient for potential competitors to duplicate these facilities and systems. Accordingly, under procedures set forth in the Act, each ILEC is required to engage in good faith negotiations with each telecommunications carrier who wishes to compete against it. The purpose of the negotiations is to establish the terms and conditions of service for the resale of ILEC services, the provisioning of certain telecommunications services, and other matters necessary (together, an "interconnection agreement") that would enable the potential competitor to enter the marketplace under conditions which would promote robust competition.

The Act and the regulations further provide for binding arbitration in the event that negotiations cannot be concluded within a specified time, upon petition to the state public utility

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[1] First Report and Order, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, FCC 96-325, adopted August 1, 1996 (released August 8, 1996) (hereinafter "Local Competition Order").

commission by either party to the negotiation. 47 U.S.C. § 252. This proceeding is the result of such petitions.

II. PROCEDURAL HISTORY

On July 16, 1996, Teleport Communications Group ("TCG") and New England Telephone and Telegraph Company, d/b/a NYNEX ("NYNEX"), respectively, filed petitions requesting arbitration pursuant to the regulations. They were docketed as D.P.U. 96-73/74. On July 18, 1996, Brooks Fiber Communications of Massachusetts, Inc. ("Brooks") filed a petition requesting arbitration pursuant to the regulations, which was docketed as D.P.U. 96-75. On August 9, 1996, AT&T Communications of New England, Inc. ("AT&T") and NYNEX, respectively, filed petitions requesting arbitration pursuant to the regulations. They were docketed as D.P.U. 96-80/81. On August 29, 1996, MCI Telecommunications Corporation ("MCI") also filed a petition requesting arbitration pursuant to the regulations, which was docketed as D.P.U. 96-83. On September 19, 1996, Sprint Communications Company L.P. ("Sprint") filed a petition requesting arbitration pursuant to the regulations, which was docketed as D.P.U. 96-94.

Upon agreement by the parties, Paul F. Levy was designated by the Department of Public Utilities ("Department") as the arbitrator for each of these proceedings. At a procedural conference held on September 18, 1996, it was determined that there was sufficient overlap in the issues presented in the various petitions and they were consolidated for hearing.

The proceeding has been divided into four phases: Phase 1 covered issues which were

determined by the parties to be ripe for an abbreviated hearing format. In that phase, parties submitted statements of positions and reply statements, no discovery took place, and a short hearing was held without witnesses to permit the arbitrator to ask follow-up questions of the parties' attorneys. The Department issued an Order addressing the issues in Phase 1 on November 8, 1996.

Phase 2 covered the issue of the appropriate amount by which NYNEX retail services will be discounted for resale. As envisioned by the Act, such prices are to be based on the retail rates charged for such services, excluding the portion attributable to costs that would be avoided by the ILEC in the wholesale provisioning of such services. 47 U.S.C. § 252(d)(3). It is the review of avoided cost studies and other associated matters that was the subject of Phase 2 prefiled testimony, discovery, and evidentiary hearings. The Department issued an Order addressing the issues in Phase 2 on December 3, 1996.

Phase 3 covered other non-cost study issues that were too complex to be handled in the abbreviated format of Phase 1, and it consisted of prefiled testimony, discovery, and evidentiary hearings. Phase 4 covered the issue of the appropriate pricing for unbundled network services and combinations of unbundled network services, and these matters also were the subject of prefiled testimony, discovery, and evidentiary hearings. The Department issued an Order addressing the issues in Phase 4 on December 4, 1996.

In Phase 3 of this proceeding, prefiled testimony and exhibits were filed by all parties. Those documents, plus all information responses, were introduced into evidence. This evidence

was supplemented by oral testimony and record requests from a number of witnesses at hearings on October 23, October 25, and November 1, 1996. At these hearings, NYNEX presented Charles Kiederer, director, networks interoperability at NYNEX; Roger F. Wieland, managing director, process reengineering assurance at NYNEX; Julie A. Canny, managing director, process integration at NYNEX; William N. Orosz, director of project management, local carrier markets at NYNEX; and Henry B. Gamsby, director, integrated planning at NYNEX. Sprint presented Michael J. Nelson, director, local market development at Sprint. AT&T presented Naomi Singer, product manager; Michael Hou, district manager for product management for AT&T's local business in New York and Massachusetts; Eileen Hollaran, manager for AT&T's Northeast region local services operation; and Robert V. Falcone, district manager in the local services division of AT&T. MCI presented Maria Marzullo, senior manager in the local network engineering department at MCI; Kevin Moss, a manager in MCI's local markets division; Michael Starkey, vice-president of telecommunications services for Competitive Strategies Group, Limited; and Annette Guariglia, senior regulatory analyst, local competition policy at MCI. TCG presented John Kelley, director of operations for TCG in Boston; and William Page Montgomery, an independent telecommunications consultant. Brooks presented Malcom Brown, director of operations at Brooks. Briefs were filed in this phase on November 13, 1996, and reply briefs were filed on November 18, 1996.

III. ISSUES

A. Introduction

The following issues were identified by the parties for this portion of the arbitration proceeding:

1. Operator and directory assistance services and directories: (a) How will NYNEX route operator service, directory assistance, and 611 repair calls (collectively, "O&DA") to a competitor's operator platform, and what is the appropriate timetable for doing so? (b) What are the appropriate milestones for development, testing, and implementation of O&DA services? (c) Should NYNEX be required to provision on an interim basis, non-branded O&DA services? (d) Should NYNEX be required to offer rebranding of directories?

2. Performance standards: (a) What are the appropriate performance/service standards that should apply to NYNEX's provision of its services on a wholesale basis and to its provision of unbundled network elements and combinations of unbundled network elements. (b) What remedies should apply for failure to satisfy those standards?

3. Confidentiality: There is agreement that NYNEX should be required to treat as confidential and proprietary AT&T customer data acquired during the order process, but there is disagreement over whether and how that commitment should be memorialized in the interconnection agreement.

4. Collocation: (a) What is the appropriate timetable for NYNEX's provision of collocation, and what remedies should apply for failure to satisfy the timetable? (b) Is NYNEX required to provide collocation to equipment that can carry out certain switching functions?

5. Number Portability Pricing: What is the appropriate interim number portability pricing?

6. Dark Fiber: Is NYNEX required to provide dark fiber as an unbundled network element, and if so, what are the appropriate terms and conditions?

7. AIN: Should NYNEX be required to offer advanced intelligent network ("AIN") triggers as an unbundled network element?

Other issues that were originally designated by the parties for this portion of the arbitration proceeding have since been settled or were redesignated for Phase 4. Those that have been settled are not included in this order.

B. Routing and Branding of Operator and Directory Assistance and 611 Repair Calls

1. Introduction

Currently, all O&DA calls are routed to NYNEX's operator service personnel, and customers calling these services hear the name "NYNEX" when those calls are connected. With the advent of local exchange competition, each competing carrier would like to have its own brand name attached to O&DA services. In some cases, carriers intend to provide their own O&DA services, and they want NYNEX to route the calls from their customers to their O&DA "platforms." In other cases, the carriers plan to purchase O&DA services from NYNEX, but even in this case, they would like their customers to hear the name of their company (e.g., "MCI" or "Sprint") when the call is connected. In this proceeding, the parties disagree on the method by which NYNEX should route O&DA calls to a competitor's operator platform and the timetable

for doing so. They also disagree on whether NYNEX, when providing O&DA services for resale, should be required to provide these services on a non-branded basis until it is able to offer carrier-specific branding.

On a related issue, parties argue over whether NYNEX should be required to offer rebranding of directories.

2. Positions of the Parties

a. NYNEX

NYNEX argues that it is not required to offer local exchange service on a resale basis without O&DA bundled into that service. It further argues that, if ordered to do so, the correct approach to offering that service will take 12 to 18 months to accomplish, and that, in the interim, it should not be required to unbrand its own O&DA service. Finally, it argues that branding of directories is beyond the scope of this arbitration.

NYNEX argues that neither the Act nor the Local Competition Order requires that an ILEC must create a new exchange offering that provides for customized routing of O&DA to a competitor's operator services platform. It asserts that the company's obligation under the Act is to make its existing retail services available for resale and does not include a requirement that NYNEX unbundle or reconfigure its retail exchange services for the purpose of resale. Insofar as NYNEX does not offer local exchange service without NYNEX-provided O&DA, such services should not be unbundled for provision to other carriers.

NYNEX states that it will offer O&DA as a separate network element. Thus, carriers who

want to provide local exchange service without NYNEX O&DA could do so by purchasing individual unbundled elements or combinations of elements to create the equivalent of local exchange service.

NYNEX notes that, if the Department were to direct NYNEX to develop such an offering, a finding must be made concerning the appropriate technology and timetable for it. The company states that it currently does not have the capability to perform such routing and that extensive development work must be undertaken to implement an appropriate solution. With current technology, NYNEX cannot identify its customers' O&DA traffic from that of resellers' customers. NYNEX has identified two solutions to this problem. The first method would be the class of service ("COS") approach, which would use office line, screening, and trunk translations to route O&DA calls on resold lines to separate trunk groups. NYNEX estimates that it would require six to ten months to implement this method. The second method, which NYNEX believes to be the more technologically and economically efficient, would employ the AIN. Using AIN, an intelligent database would handle the functions that in the COS solution would require an extensive work effort for each requesting reseller to develop COS codes and build them into each end office switch. It is also preferable in that the COS approach would use a significant amount of memory in the end office switch, memory that is important for other uses, like unbundling, local number portability, and generic upgrades.

Accordingly, NYNEX states that customized routing on resold lines should not be required until such time as AIN is available. However, it notes that the deployment schedule for

AIN is such that, by the end of 1996, NYNEX will have only 40 percent of AIN capacity in its end office. By the end of 1997, it will be available for 97 percent of Massachusetts access lines. NYNEX expects to be able to offer customized routing using AIN in 12 to 18 months, i.e., early January 1998, but it describes this schedule as "aggressive" and conditional on a number of factors. It compares this with the six- to 10-month schedule that would be required to offer the less attractive COS approach to each carrier.

While NYNEX acknowledges that the FCC has obliged it to rebrand or unbrand O&DA at the request of individual resellers, its current inability to rebrand leads to the COS solution to carry out unbranding for all of the other carriers as a group. Thus, if so directed, NYNEX would use the COS approach for all resold lines -- as opposed to a separate COS for each carrier -- and provide unbranded O&DA to all of the carriers. This solution would take about six months to implement.

NYNEX objects to the proposal of other carriers that NYNEX should unbrand all O&DA calls, including those placed by NYNEX's own subscribers, until the company is capable of rebranding calls placed over resold lines. First, it argues that such an action is not required in the Local Competition Order. Second, it asserts that such an approach would place NYNEX at a competitive disadvantage because the other carriers would continue to provide branded O&DA calls over their long distance networks. Finally, NYNEX states that the public interest is served in having customers know the name of the O&DA provider, and in particular, cites the requirements of the Telephone Operator Consumer Services Improvement Act ("TOCSIA") as requiring

branding of such calls.

Concerning the branding of directories, NYNEX asserts that telephone directories do not fall under the scope of Section 251(c) of the Act. It argues that matters relating to directories are not subject to arbitration, as arbitration is intended to cover issues associated with interconnection to the ILEC's network. It supports this point by noting that NYNEX Information Resources Company ("NIRC"), which publishes directories, is neither a telecommunications carrier nor a local exchange carrier within the meaning of the Act. It concludes by saying that NIRC has agreed to place information pages in the directories that will include customer contact numbers for resellers and other local exchange carriers so that customers of other carriers will be able to use the directory to locate their providers.

b. AT&T

AT&T argues that NYNEX is required to provide O&DA services separately from basic local exchange service and to provide customized routing to AT&T's operator platform. It asserts that NYNEX should do so using the AIN technology, commencing no later than September 1, 1997, and completing the process by the end of 1997. In the interim, NYNEX should be required to rebrand or completely unbrand O&DA services. Concerning directories, AT&T argues that NYNEX should be required to rebrand its directories with the logos of all resellers.

AT&T asserts that the FCC has determined that ILECs must offer basic local exchange service both with and without O&DA services in a resale environment. This requirement, AT&T

argues, will have procompetitive effects, while permitting NYNEX to require purchase of local exchange service with attached O&DA services would have anticompetitive effects. It analogizes the latter approach to an illegal tying arrangement. This, it claims, is an unreasonable restriction on resale, something forbidden in Section 251(c)(4)(B) of the Act.

AT&T states that the heart of its dispute with NYNEX is not feasibility but timing. It agrees with NYNEX that the AIN solution is preferable, but it believes that rerouting under this approach can be accomplished at an earlier date. It points to other ILECs in the country who have offered to provide O&DA on a more expedited basis. It asserts that, at a minimum, NYNEX must commit to a rolling schedule for instituting customized routing, and it is willing to discuss the order in which that should occur.

In the interim, asserts AT&T, NYNEX should unbrand O&DA calls, for a failure to do so will be unreasonable and discriminatory and counter to the purposes of the Act. Requiring NYNEX to unbrand its own O&DA services, says AT&T, will create a genuine incentive for NYNEX to provide rebranding and customized routing at the earliest technically feasible date. AT&T states that NYNEX's reliance on TOCSIA is misplaced, in that TOCSIA does not apply in the local market, but rather requires operator branding of interstate calls made from publicly accessible phones.

c. MCI

MCI's positions parallel those of AT&T and therefore will not be repeated at length here. MCI asserts that NYNEX's position that it need not resell telecommunications services unless the

reseller also purchases O&DA services is an unreasonable restriction on resale. It says that carrier specific branding is essential to resellers to build customer loyalty. Absent such branding, customers would experience concern, confusion, and dissatisfaction when placing a bill inquiry, a directory assistance call, or an operator service call to their provider of choice if they are greeted with the name of their old telephone company. They might even conclude that they had been "slammed," i.e., reconnected to another carrier without their consent. MCI states that NYNEX's arguments about the difficulties of the COS approach are a red herring, in that the potential memory problems associated with this approach are conjectural and unlikely, and, in any event, will disappear once AIN is in place. While disagreeing with the timetable for both the COS approach and the AIN solution, MCI argues that, in the interim, NYNEX should unbrand its O&DA services.

3. Analysis and Findings

As indicated, the O&DA issue has two facets. One question is whether NYNEX should be required to route another carrier's O&DA calls to that carrier's platform when local exchange service is being purchased for resale. The other is the issue of branding such services, when such routing is not made available.

We find NYNEX's view, that O&DA must be offered as a bundled service with exchange service unless it is purchased as an unbundled network element, to be unnecessarily restrictive and therefore contrary to the Act. Section 251(c)(4)(B). It artificially maintains the fiction that O&DA is and must remain inherently part of exchange service. Although both services have been

combined in the public's perception, in fact, there has been a gradual movement away from that bundled viewpoint over the past several years. Indeed, several years ago, NYNEX itself initiated retail proposals to separate the pricing of the DA portion of these services. At that time, we permitted NYNEX to assess a fee on business and residence DA calls. See, New England Telephone and Telegraph Company, D.P.U. 91-68 (1991); New England Telephone and Telegraph Company, D.P.U. 84-242 (1985). While operator services and 611 repair calls are, admittedly, more closely tied in the public's perception to basic exchange service, there is certainly no reason that they must remain so in a competitive market (Tr. 6, at 23-24). If AT&T, MCI, or another carrier wishes to provide its own O&DA services, while buying exchange service at wholesale from NYNEX, such an approach is consistent with the competitive marketplace envisioned in the Act. NYNEX's suggestion that another carrier "reconstruct" basic exchange service, less O&DA, by purchasing a combination of unbundled network elements is clearly burdensome. We agree with AT&T and MCI that it is also inconsistent with the Act and the Local Competition Order, which envision the provision of a service like exchange service to be available as a bundled service for resale.

It is also reasonable for AT&T, MCI, and the other carriers, whether or not they provide their own O&DA services, to obtain branding of these services with their own name. We agree with those witnesses who have pointed out that it would be confusing for a customer of a competing carrier to call an operator or directory assistance and hear the ILEC's name (see, e.g., Tr. 4, at 45-46). It would also confer an unfair competitive advantage on the ILEC to have that

opportunity to place its name in front of the customer, even though the competing carrier was paying for the service. We find unconvincing NYNEX's assertions that it would be placed at a competitive disadvantage because other carriers provide O&DA services for their interstate and other toll calls, for the simple reason that NYNEX does not compete in that market. Finally, we disagree with NYNEX's contention that an interim solution to this issue is not required. It is especially essential in the early days of competition for all parties to be able to display their services in the most attractive light to potential customers.

However, we also recognize that there are technical constraints to achieving customized routing and rebranding of O&DA services. NYNEX offers persuasive evidence that the installation of the computer systems needed to efficiently carry out this process throughout the state will take many months, and that the interim COS solution is cumbersome and could potentially cause capacity limitations in the system (Tr. 3, at 10-11). Moreover, we note that a serious problem exists with the COS solution in that it is inherently anti-competitive, for it enables NYNEX to maintain its brand on O&DA services when other carriers are not afforded that opportunity (Tr. 3, at 20-22).

We have combined these two issues because we believe that the solution to this problem must address both the technical concerns of customized routing and the marketing concern surrounding branding. While AT&T and MCI argue that NYNEX's proposed timetable to accomplish customized routing and/or rebranding is unrealistic, we cannot, on this record or in the time frame available for these arbitrations, reach a determination that they are correct or

NYNEX is wrong. Fortunately, in this instance, it is not necessary for the Department to reach a judgment as to the specific schedule under which NYNEX should offer routing of O&DA services or rebranding of such services. Rather, we offer a solution which provides NYNEX with an incentive to accomplish both of these tasks as quickly as possible. That solution is that, until rerouting and rebranding is available to the other carriers, NYNEX must unbrand its own provision of O&DA services. Based on Mr. Kiederer's testimony, this unbranding can be accomplished in just a few weeks (Tr. 3, at 18). We direct NYNEX to begin this process immediately. In reaching this conclusion, we agree with AT&T and MCI that NYNEX's reliance on TOCSIA is misplaced, in that TOCSIA does not apply in the local market, but rather requires operator branding of interstate calls made from publicly accessible phones. In any event, unbranding is certainly preferable to misbranding O&DA calls, which is what would occur under the NYNEX proposal when an O&DA call is made by a competing carrier's local exchange customer.

By unbranding its O&DA services, NYNEX will not have a competitive advantage vis-a-vis the other carriers. As soon as it is technically possible for NYNEX both to route O&DA calls to other carriers and offer each of them the opportunity to rebrand those services, it may, in turn, rebrand its own service. We recognize that this capability may not occur simultaneously throughout the state, and we find it acceptable for NYNEX to rebrand its services by wire center or region in the state as soon as it makes that same capability available to other carriers in the same wire centers or regions.

Turning to the issue of directories, we find nothing in the Act to support the competing carriers' assertion that they have a right to have their brand placed on directories produced by NIRC. NIRC is not a telecommunications carrier nor a local exchange carrier and therefore is not subject to the rebranding provisions of the Act or the Local Competition Order. The publication of telephone directories is a competitive business, and NYNEX's ownership of network telecommunications facilities is not a barrier to entry for any firm wishing to enter the directory business. We trust that publishers of directories would find commercial value in displaying the names of all local exchange carriers on their directories, but we do not here order them to do so.

C. Performance Standards

1. Basis

a. Introduction

This portion of the case deals with the amount of time it takes NYNEX to deliver services to other carriers and the customers of those carriers. Examples of such services include connecting a customer to a resold service, like local exchange service, or responding to a repair call. Included, too, would be the processing of orders for unbundled network elements. The parties generally agree that NYNEX is required to provide service to other carriers at parity with the services it provides to itself. The definition of such parity, however, is in dispute. In addition, there is a disagreement over whether the Department should establish a procedure to insure that service standards improve over time.

b. Positions of the Parties

i. NYNEX

NYNEX, citing the Act and the Local Competition Order, acknowledges that it has a requirement to provide both network elements and resold services at a level of quality that is at least equal in quality to what it provides itself. To meet this standard, NYNEX proposes to provide detailed reports to the Department and carriers that are tied to the same reports the company submits to the Department. See NYNEX, D.P.U. 94-50, at 235-238 (1995). NYNEX proposes to monitor the service levels for unbundled services that are "at the beginning stages of development", and develop service standards for these services over time. In this interim period, NYNEX proposes to issue reports to each carrier on its own service results, along with a comparison of those results with those of the industry in NYNEX's service area and NYNEX's own customers. The company would issue this latter information in aggregate to protect the security interests of various parties.

NYNEX asserts that proposals that would require it to offer service at levels approved by the Department are not required by the Act and should not be imposed. The company states that it has a sufficient incentive to maintain and improve the level of quality of its services.

ii. AT&T

AT&T states that NYNEX's proposal is insufficient. It claims that, without specific performance standards, there is no way to determine and enforce NYNEX's compliance with the parity requirement. It wants NYNEX to satisfy particular levels of service quality and to report on those results to AT&T. It states that such standards are especially important when the local

exchange market is first opened to competition, so that customers who choose a new carrier are not unpleasantly surprised and return to the ILEC. In the longer term, says AT&T, carriers must be able, for marketing and customer relations reasons, to ensure some minimum level of performance to customers and potential customers.

In addition to standards of service for the end user, states AT&T, there must be standards governing the relationship between NYNEX and the competing carriers. It notes as an example that, for AT&T to meet a retail installation standard for providing service using an unbundled loop, NYNEX must be required to provision that loop to AT&T within that time period.

In summary, AT&T states that two reporting procedures should be implemented to measure NYNEX's service standard performance. First, NYNEX should be required to provide quarterly reports on its inter-carrier service provisioning with respect to each of the services provided. These data would be compared to the specified carrier provisioning standards. Second, NYNEX should be required to modify its existing reports to carriers on local exchange service quality to enable a determination of whether there is any material difference between the quality of the service received by NYNEX retail customers and the quality of service received by resellers' retail customers.

iii. MCI

MCI contends that NYNEX's definition of parity is insufficient to meet the standards of the Act. It asserts that NYNEX has offered to treat resellers at parity with NYNEX's end user, but that this standard is insufficient to ensure that MCI can provide its end user with the same

level of service and at the same time intervals as NYNEX can and does provide to its own end user. Thus, MCI contends that NYNEX should give MCI the same level of service it gives to its own internal business units.

MCI further states that, to ensure parity, NYNEX must meet specific performance standards. Without such standards, it asserts, MCI will not know what level of service it can expect to receive from NYNEX, and it will not be possible to inform its customers of what to expect. MCI proposes that NYNEX should be required to make clear the level of service it provides today to itself, so that MCI knows what service it should expect to receive. In addition, NYNEX should provide measurement of the service quality it has provided to itself and others, to demonstrate that parity is being achieved.

MCI contends that NYNEX has been unwilling to share information on the expected internal processes and time intervals that MCI needs to provide unbundled network elements and resale to its own internal business units. MCI states that it defies logic to believe that NYNEX does not have such information, since it has been providing telecommunications service in the state for decades and that, in any event, has known of the requirement of the Act since it was passed. MCI proposes a number of such metrics based on its experience as an interexchange carrier working with the ILECs.

iv. TCG

TCG notes that there are two conceptual levels of performance, the absolute level of performance in providing a facility or service and the relative performance, which compares the

time it takes NYNEX to performs a service and the time its takes to do so for a competing carrier. While both are of importance, it is the latter one which deserves special attention to reduce the possibility of anti-competitive conduct.

TCG states, also, that two types of standards are necessary. The first would govern the provision of "intermediate goods," the services or elements that NYNEX provides to TCG for use by TCG in providing services to its customers. These standards must be distinguished from the second type, the standards for certain retail services that regulators have prescribed in the past.

TCG argues that standards should not be absolute and immutable, but they should also not be subject to unilateral change by NYNEX. Initially, the standards should be established at the levels that NYNEX provides to itself and its larger customers. Agreeing with the other carriers, TCG states that NYNEX should be under an obligation to maintain and to provide to TCG such records as are necessary to demonstrate that both the absolute and relative levels of service have been achieved.

TCG further contends that it would be inappropriate to measure NYNEX by the standard of service it offers for average customers, since TCG will be competing against NYNEX for business from its larger customers. Thus, the appropriate metric should be based on the level of service provided to NYNEX's top 100 customers, who, by virtue of size and revenue potential, get preferential treatment from NYNEX.

c. Analysis and Findings

Competitive carriers have a right to expect that NYNEX will maintain a quality of service

to them that is at least as good as it provides to itself. This is the parity standard with which all parties agree, at least in theory. Absent this requirement, carriers would find themselves put at a competitive disadvantage by the firm that, at least for some period of time into the future, will "hold the cards" insofar as resources committed to maintaining service standards. Thus, at a minimum, carriers have a right to expect parity with NYNEX with regard to the provision of these services, and they have a right to expect NYNEX to measure and report on its service quality in terms that permit carriers to verify that parity is being achieved. While recognizing this principle, the parties disagree on two major points: (1) at what level of service is parity to be measured, as seen by the customer or as seen by the competing carrier?; and (2) in addition to parity, do the competing carriers have the right to expect a certain absolute level of quality with regard to the service levels provided by NYNEX?

We address the parity issue first. Whether purchasing network services for resale or purchasing unbundled network elements for resale, the competing carrier becomes an intermediary in the service and repair order process. We focus on MCI as an example, although the same situation would hold for all of the other competing carriers. MCI might submit a service change or repair order to NYNEX on behalf of a retail customer, and then NYNEX would carry out the physical work needed to service that customer. In contrast, NYNEX deals directly with its customers with no intermediaries. MCI believes that NYNEX should provide it, MCI, with a level of service that would permit MCI's customers to experience the same levels of overall service quality as NYNEX's own customers, notwithstanding the intermediary step that each such

service order has to take in the resale environment. We agree. A retail customer should not face different levels of service based on whether that customer's supplier is the facilities-based ILEC or a competing carrier dependent in some measure on the ILEC's facilities. NYNEX's proposal that it will adhere to the Department's retail service quality standards and will provide information to the resellers in the same format and at the same interval that it provides to the Department does not address this concern, as it only deals with the portion of the service ordering process that begins after NYNEX processes the service order received by the competing carrier. In short, it misses a key step in the resale environment: the time it takes NYNEX to process the reseller's request in the first place.

Enforcement of the standard suggested by MCI, which we adopt, implies two levels of measurement. The first would record and compare the time it takes for the NYNEX repair and installation staff to begin to act on a request from a NYNEX customer service representative with the time it takes for the NYNEX repair and installation staff to begin to act on a similar request from an MCI customer service representative. This metric ("the internal process standard") will ensure that there is parity with regard to NYNEX's own internal processes. NYNEX states that this interval will not be problematic because NYNEX will be providing mechanized interfaces that will enable carriers to interact operationally with NYNEX in the same manner that NYNEX's business units interact for purposes of service ordering (NYNEX Reply Brief at 7-8). If NYNEX is indeed correct that there will be no difference in the speed with which it begins processing a carrier's request and a request from its own business units, this metric will demonstrate that result.

We require development of the metric, though, to ensure that the existence of the mechanized interfaces translates into actual parity in internal processing service ordering time intervals.

The second type of measurement would record and compare the time it takes for the NYNEX repair and installation staff to complete a service call for a NYNEX customer with the time it takes for the NYNEX repair and installation staff to complete a similar service call for an MCI customer. This metric ("the retail process standard") would ensure that there is parity in the delivery of service to the retail customer. We have defined these metrics in such a way as to ensure that NYNEX is not held responsible for the amount of time it takes MCI itself to process the MCI portion of a service request. We direct NYNEX to develop a system for recording and reporting both of these types of measures and to include provision of them in the interconnection agreements.

We now turn to the question of whether the competing carriers have the right to expect a certain absolute level of quality with regard to the service levels provided by NYNEX. In other words, is there a reason to have a requirement beyond parity to help ensure the benefits of competition in the Massachusetts telecommunications market? We conclude that there is such a reason, and we direct the parties to include specific performance measures and a procedure for modifying those measures in the interconnection agreements.

Mr. Montgomery and Mr. Kelley provided persuasive testimony that there is a need, over time, to ensure that an ILEC does not unilaterally decide to change a service standard (Tr. 4, at 73-92). They indicate that NYNEX might make a business decision to focus its competitive

energies on one segment of the market to the detriment of other segments deemed more important to one or more competing carriers. Although NYNEX could still meet the parity standard in such a case, the quality of service experienced by the customers of a competing carrier could nonetheless deteriorate, to the disadvantage of the carrier in question. TCG's witnesses propose a standard which might be termed the "no-change-in-parity test." Under this standard, the operating standards that NYNEX meets today for its own internal processes and for ultimate delivery of services to retail customers would be memorialized in the interconnection agreements. These would stay in force unless both parties, through an appropriate process, including a dispute resolution proceeding, would agree to changes. We find that this proposal adequately and fairly resolves this issue, and we direct the parties to include such a standard in the interconnection agreements. We find AT&T's proposal reasonable. If the parties are unable to reach an agreement on specific standards within two months of this Order, each party should submit its specific proposal to the arbitrator for final determination (AT&T Reply Brief at 6).

One issue remains. TCG suggests that the internal process standard should be based on the level of service NYNEX currently applies in its dealings with its 100 largest business customers. We agree with this proposal, in part for the competitive reasons stated by TCG, but also because we find that the services offered to those large customers -- as contrasted with those provided to a multitude of average retail customers -- will be more analogous to the services offered to an interconnecting competing carrier buying at wholesale for a large number of retail customers. However, the record does not indicate that NYNEX currently maintains records at

this level or provides a different level of service to that customer group. We therefore direct it to develop such disaggregated metrics within six months of the date of this Order, and when those metrics have been developed, to incorporate them as the appropriate internal process standard in the interconnection agreements, subject to the dispute resolution process set forth in the agreements.

2. Remedies

a. Positions of the Parties

AT&T, MCI, and TCG argue that NYNEX should be subject to monetary penalties if it fails to meet the performance standards that have been established, stating that, in the absence of such penalties, NYNEX will have no incentive to ensure that the standards are met. NYNEX claims that this position is unwarranted, that the imposition of penalties is not mandated by the Act or the Local Competition Order, and that the Department does not have the authority under Massachusetts law to impose monetary penalties for failure to meet service quality levels. Instead, the Department should monitor NYNEX's performance and initiate action if the evidence indicates that NYNEX is not meeting the parity requirement.

b. Analysis and Findings

As we have stated in our Order on Phase 1, there is clearly an incentive for an ILEC to provide lower quality service to a competing carrier and to that carrier's customers than it provides to itself and its customers. See Consolidated Arbitrations, D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94 (Phase 1), at 19-20 (1996). NYNEX's argument with regard to this incentive

simply strains credulity. Even assuming, *arguendo*, that the prices established in this proceeding for resale of services and unbundled network elements were set so as to make NYNEX indifferent as to whether it sold wholesale or retail local exchange service, it would still have a strong incentive to retain its retail customers. Under the Act, NYNEX will soon have the ability to offer a full range of telecommunications services, such as interstate long distance services, and the bundling of those services with local exchange service presents many future business opportunities for NYNEX (Tr. 1, at 51-52; Tr. 2, at 49-50). Absent clear service standards and equally clear penalties for NYNEX's failure to meet such standards, the purposes of the Act would be in jeopardy. We agree with TCG that a liquidated damages provision in the interconnection agreements would provide a useful self-enforcement mechanism (TCG Reply Brief at 5).

NYNEX's reliance on Massachusetts law in support of its position is misstated. It cites Commonwealth v. Diaz, 326 Mass. 525 (1950), but that case dealt with the ability of a state agency to fix a penalty with regard to violation of that agency's regulations. In particular, the Supreme Judicial Court found that an agency had abused its discretion by applying a penalty that exceeded penalties prescribed by the Legislature for similar types of offenses. Here we deal with a federal statute, the Act, which clearly empowers states to arbitrate between carriers who have not been able to reach agreement on contractual terms for interconnection. We must, in carrying out that task, determine whether certain contractual conditions are consistent with that Act and are necessary to achieve the goals Congress has set forth. As we have stated, liquidated damages are necessary and consistent with the Act, and we are therefore empowered to order their

inclusion in the interconnection agreements.

NYNEX is correct that this record does not provide support for a particular level of liquidated damages. NYNEX has, however, agreed on certain levels of liquidated damages in other interconnection agreements, which can perhaps help inform the discussion among the parties. We direct the parties to reconvene negotiations to determine an appropriate level of liquidated damages, and if they are unable to reach an agreement after 30 days of negotiations, they may petition the arbitrator to determine appropriate levels based on a more complete record.

D. Confidentiality

1. Introduction

The parties agree that NYNEX cannot use AT&T data, even in aggregated form, for retail marketing purposes. Thus, the only issues left with regard to this issue are whether this prohibition has to be stated in the interconnection agreement and whether the agreement should have a requirement that documentation of NYNEX's operational flows be given to AT&T to help ensure that this provision is being carried out by NYNEX.

2. Positions of the Parties

AT&T states that this should be in the agreement to help ensure compliance and to permit disputes concerning compliance to be resolved within the context of the contractual language of the agreement, rather than requiring court action. NYNEX states that such a requirement would be an unnecessary restatement of the relevant portions of the Act. NYNEX further points out that the FCC is examining the need or desirability of establishing specific rules and procedures for

ILECs to document their operational flows to ensure compliance with the confidentiality requirement and therefore suggests that it is not necessary to impose such a requirement in this proceeding.

3. Analysis and Findings

We find that both requirements should be placed in the interconnection agreement. This would permit any dispute concerning this item to be resolved using the dispute resolution procedure contained in the agreement, eliminating, at least in the early stages of a dispute, the need for either party to incur the expense and time delay inherent in going to court or to the Department to enforce the Act. This provision of the agreement should be written to permit recognition of any standards concerning this issue that might be issued by the FCC.

E. Collocation

1. Timetable for Provisioning

a. Introduction and Positions of the Parties

NYNEX and AT&T agree that 15 weeks is an appropriate interval within which to permit collocation of a carrier's facilities at a NYNEX wire center.[2] AT&T and NYNEX have also agreed that three weeks is an appropriate extension of time for special circumstances, identified either at the time of a "space walk-through" or later in the collocation process, provided NYNEX notifies AT&T within two business days of the discovery of such special circumstances. The

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[2] MCI argues in one place that three months is an appropriate interval, but then suggests that 16 to 20 weeks would be acceptable (MCI Initial Brief at 28). We assume that it would be content with the 15-week interval.

parties also agree that for truly extraordinary circumstances, the appropriate time extension should be worked out on a case-by-case basis.

However, the parties disagree on the appropriate dispute resolution process for disagreements concerning what constitutes "special" or "extraordinary" circumstances. NYNEX proposes that the Department be the forum for resolution of such disputes, to ensure consistency in the resolution of the disputes, while AT&T suggests that such disputes are more efficiently resolved through a private dispute resolution mechanism.

Finally, AT&T states that there should be financial penalties for NYNEX's failure to meet the 15-week or ultimately agreed-upon deadline and suggests that these penalties be equal to the amount of interest incurred in the equipment which sits idle, compounded daily for each day of delay.

b. Analysis and Findings

We are pleased that the parties have agreed that a 15-week period, with the exceptions provided, is an interval that permits sufficient time for NYNEX to perform the tasks associated with collocation, while also giving the other carriers a reasonable planning horizon for the introduction of collocated service from a wire center. We find that the Department is not an appropriate forum within which to resolve a dispute over special or extraordinary circumstances. But see Local Competition, D.P.U. 94-185, at 39-41 (1996). We believe that one of the goals of the Act is to move such time-sensitive commercial disputes out of the hearing room and into the normal business process. AT&T is correct that such a process is likely to be more speedy than

the Department dispute resolution procedure, and that generally, time will be of the essence in resolving this particular kind of dispute. Accordingly, we direct the parties to construct a private dispute resolution procedure that would permit NYNEX to demonstrate that special or extraordinary circumstances will cause it to take a longer amount of time in any particular instance.

On the penalties issue, we agree with AT&T on the need for such incentives, but we do not have a record on which to establish specific financial penalties for failure to meet a collocation deadline. In some cases, such a delay will have no major financial effect on a carrier, and in others it will result in a major effect. AT&T's proposal to set the delay equal to the interest on the unused capital equipment would likely be too high in some circumstances and too low in other cases, relative to the actual commercial value of the collocated equipment. If the parties wish to include this specific provision in their agreements, that is satisfactory to us. But, absent such an agreement, we find that this determination should be made on a case-specific basis, using the same commercial dispute resolution procedure described above.

2. Remote Switching Equipment

a. Introduction

Section 251(c)(6) of the Act requires NYNEX to provide collocation of equipment necessary for interconnection or access to unbundled network elements for the provision of telecommunications services. The Act does not require collocation of equipment used for switching. Brooks and AT&T have requested that NYNEX permit them to install remote

switching modules ("RSMs") in collocated space.

b. Positions of the Parties

i. Brooks

Brooks states that there are two primary methods of providing line termination for unbundled links and the ability to optically connect to its fiber network, RSMs and next generation digital loop carriers ("DLCs"). It states that RSMs are more efficient than the next generation DLCs in many respects. First, the level of service would be better because RSMs would permit the routine testing of individual customer lines by Brooks technicians without installing additional testing equipment and with less dependence on NYNEX. They would allow for automatic fault detection, testing and reporting to Brooks technicians, rather than waiting for customers to report line trouble. Second, RSMs are more easily expanded to allow for growth. In addition, RSMs can occupy less floor space than the DLCs. In addition to these efficiencies, RSMs are more economical to engineer, furnish, and install than the DLCs.

Brooks disagrees with NYNEX that the Act and the Local Competition Order prohibit collocation of RSMs. It states that they are used primarily for actual interconnection or access to unbundled networks, while having some limited switching functions, and therefore they are not exempt from collocation under the Act.

ii. AT&T and MCI

AT&T's and MCI's argument parallel those of Brooks and will not be repeated in their entirety here. They do, however, make the point that RSMs would be useful for the limited

function of intraswitch calling, calls where both loops are served by an RSM. This would enable the carrier to avoid transporting such a call to a distant host switch and then back again to the local central office for termination to the receiving customer.

iii. NYNEX

NYNEX states that collocation of RSMs should not be permitted. It asserts that such equipment has the potential to harm competition. First, it states that the assertion by AT&T's witness that such equipment is needed to avoid degradation of transmission quality when DLCs systems are in place is inaccurate. Loops normally transported by integrated DLCs will be unbundled to a DLC arrangement. Loops transported by DLC do not have to be terminated on a second DLC system, but rather can be connected to any standard multiplexing equipment.

Second, NYNEX asserts that AT&T's network efficiency argument, that a remote switch can be used to avoid unnecessary transport to a host switch, is overstated. It says that AT&T ignores the significant costs that would be associated with the placement of a remote switching module and ignore the option that AT&T could locate such module across the street from the NYNEX central office to derive similar efficiencies. Nevertheless, it argues, whether or not there might be economies for AT&T to engage in intraswitch calling from a collocated remote switching module is not the controlling factor or standard.

Third, NYNEX asserts that RSMs have significant installation and operating requirements associated with installing them in collocated space. First, it is necessary to establish an isolated electrical ground between the module and other equipment in the central office. This requires a

separate power source within the central office for the module. NYNEX says the modules also require significant amounts of space, space that might otherwise be used by other carriers for collocated transmission equipment.

c. Analysis and Findings

The Local Competition Order clearly requires an ILEC to permit collocation of a competitor's transmission equipment, such as optical terminating equipment and multiplexers, in the ILEC's central offices. Local Competition Order at ¶¶ 579-580. This requirement recognizes the fact that virtually all loops currently terminate at the ILEC's central office and that it would be impractical, in these early days of competition, to require an off-site termination point for those loops served by a competing carrier. The FCC, however, declined to require ILECs to allow collocation of any equipment without restriction, finding that the Act requires ILECs to provide collocation only for equipment necessary or used for the purposes of transmission and routing of telephone exchange and exchange access. It went on to say:

> At this time, we do not impose a general requirement that switching equipment be collocated since it does not appear that it is used for the actual interconnection or access to unbundled network elements. We recognize, however, that modern technology has tended to blur the line between switching equipment and multiplexing equipment, which we permit to be collocated. We expect, in situations where the functionality of a particular piece of equipment is in dispute, that state commissions will determine whether the equipment at issue is actually used for interconnection or access to unbundled elements.

Local Competition Order at ¶ 581.

Thus the issue is clearly before the Department. There is no dispute in this case that the Brooks and AT&T RSMs would "actually be used for interconnection or access to unbundled

elements." The issue is that this equipment also has some switching capability. We must decide whether it is permissible to collocate equipment with both types of capability on NYNEX property.

In the absence of a clear statutory or FCC standard on this issue, we choose to rely on a standard that we believe to be in conformance with the overall goals of the Act and the Local Competition Order. The standard by which we judge this issue is whether permitting collocation of remote switching of the type proposed by Brooks and AT&T would result in a more efficient competitive market and whether it would result in any uncompensated physical or logistical harm to NYNEX. For the reasons given below, we conclude that the answer to the first question is "yes" and to the second is "no," and we therefore rule that such collocation is permitted.

As described by Brooks and AT&T, the RSM would permit a call that originates and terminates within one central office, an intraswitch call, to be routed directly through the remote switching module, rather than be transported by an interoffice transport circuit to a host switch some distance away and then transported back to the local office for ultimate delivery to the receiving party (Tr. 5, at 11-13, 92-93). In addition, the RSM permits testing of digital circuits through the unbundled loops from the host switch without adding equipment that would otherwise be required (id. at 97). Beyond that capability, the module would generally perform as a transmission facility, delivering non-intraswitch calls to the appropriate host switch. Other functions, such as billing functions and custom calling features (with the exception of call waiting), would be handled through the host switch (id. at 93-96). According to Mr. Brown,

remote switching modules are more economical than a separate host arrangement once the carrier is serving between 2,500 and 3,000 lines in a central office (id. at 98).

In light of this evidence, it is clear that RSMs offer carriers improved efficiency in interconnecting with unbundled loops and other unbundled network elements. Installation of such equipment removes the inefficient transport of intraswitch calls from the interoffice transport network, making the handling of such calls analogous to the way they are handled by NYNEX. In addition, they avoid a carrier's added expense of extra digital loop testing equipment or reliance upon NYNEX for routine loop testing. In this respect, also, they enable a carrier's network to perform more on a par with that of the ILEC. We find, therefore, that these results are consistent with the overall purposes of the Act and the Local Competition Order in that they will promote a more efficient competitive telecommunications marketplace.

We turn now to the question of harm to NYNEX. The first area of potential harm to NYNEX is compensation. If we were to permit RSMs to be located on NYNEX property without just compensation, that would be unfair to NYNEX. However, there is no reason to assume that the prices for collocation of RSMs will not be fully compensatory. They will be based on the same prices for collocation of transmission equipment established in this proceeding, and they will properly compensate NYNEX for its costs.

We turn now to physical harm to personnel or technical harm to the network. A NYNEX witness stated that RSMs would have to meet the rigorous safety and technical standards and codes applied by NYNEX to its own switches (id. at 52-56). Brooks' witness agreed with this

(id. at 97). In fact, NYNEX uses RSMs itself (id. at 86). We find that any carrier seeking to collocate equipment on NYNEX's property will have to meet industry standards for health and safety to persons and network equipment. Accordingly, there is no reason to expect physical harm to personnel or technical harm to the network from collocation of RSMs.

Finally, NYNEX expresses concern that the space requirements of RSMs might create a burden on other carriers, by using up space that carrier might use for collocated transmission equipment (id. at 57). This record indicates that the modules take up approximately the same amount of space as transmission equipment, and sometimes they take less space (id. at 86, 98-99). Thus, we find no reason to believe that this will be a problem, beyond the same problem that would arise if the first carriers to locate line termination equipment in a central office were to use up available space in that office. Both possibilities are unlikely (see id. at 98-99). However, in the unlikely event that NYNEX discovers that RSMs are taking up more space than other types of terminating equipment, and that this situation is causing serious logistical problems, NYNEX should have recourse under the dispute resolution provisions of its interconnection agreements with other carriers.

In summary, we conclude that permitting collocation of RSMs of the type proposed by Brooks and AT&T would result in a more efficient competitive market and would not result in any harm to NYNEX. NYNEX is therefore directed to permit collocation of such equipment according to the same terms applicable to collocation of transmission equipment.

F. Interim Number Portability Pricing

1. Introduction

The Act requires NYNEX to provide interim number portability ("INP"), the ability of a telephone subscriber to keep his or her telephone number when changing service among carriers. The company plans to offer this ability using two technologies, remote call forwarding and route indexing. There is no disagreement among the parties as to NYNEX's choice of technologies to carry out INP. The disagreement in this case is on the manner of pricing this service.[3]

2. Positions of the Parties

a. NYNEX

NYNEX believes that it is entitled to full and fair compensation for the costs it incurs to deliver ("port") numbers to other connecting carriers. It has proposed two alternatives for INP. The first is to charge $2.00 per month per ported business number and $1.00 per month per ported residence number, in addition to a nonrecurring charge of $20.00 per line. Although NYNEX has not undertaken a cost study to determine these rates, it says they are consistent with the Total Element Long-run Incremental Cost ("TELRIC") studies carried out to determine the costs for local and tandem switching. It suggests that they are conservative and provide for only a partial recovery by NYNEX of its costs. Under this proposal, NYNEX would share the switched access charges collected from interexchange carriers ("IXCs") for calls to the ported number.

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[3] We refer here to "interim" number portability because the FCC is in the process of determining the appropriate means and costing of long-term number portability. First Report and Order and Further Notice of Propose Rulemaking, In the Matter of Telephone Number Portability, CC Docket No. 95-116, FCC 96-286, adopted June 27, 1996 (released July 2, 1996) ("INP Order").

NYNEX states that this proposal is fair in that it provides for a sharing of the costs as well as access revenue and does not place the burden on only one of the parties in the transaction.

The second NYNEX proposal is based on the "Rochester Plan" cited by the FCC. Under this plan, NYNEX would not render a discrete charge for each number, path, or line ported. Instead, each carrier would be charged a portion of NYNEX's total interim number portability costs based upon that carrier's percentage of working telephone numbers. Under NYNEX's version of this plan, carriers do not share access revenues. They are retained by the carrier that is responsible for porting the telephone number.

NYNEX argues that the proposal of the competing carriers that each carrier should pay its own costs of INP is unfair in that it fails to distribute the cost of providing INP among all telecommunications carriers on a competitively neutral basis, as required by the Act and the FCC regulations.

b. AT&T

AT&T asserts that neither of NYNEX's proposals are satisfactory. It argues that the first proposal does not even purport to comply with the FCC rules, as the charges have not been shown to have any basis in the incremental cost of INP or to represent any acceptable allocation of cost across carriers. The flaw with the second plan, states AT&T, is NYNEX's proposal to retain all access revenues. It states that this is in contradiction to the FCC regulations, which state that carriers are to share in the access revenues received for a ported call.

AT&T notes the interim nature of this issue and suggests that the work and expense

required to identify the incremental costs and apportionment factors and administer the billing will equal or exceed the costs that NYNEX expects to bill for INP solutions. Therefore, it asserts, the appropriate mechanism is for each carrier to pay its own costs of INP. Alternatively, AT&T would favor the Rochester Plan, but with a sharing of access charge revenues, based on a "meet point" billing arrangement. Under this proposal, NYNEX would bill an IXC for the transport component of access from the IXC to NYNEX. AT&T would bill the carrier for the local switching component of access that covers AT&T's end office and for the common carrier line charge component of access that covers the loop. NYNEX would provide call records to enable this billing to proceed.

c. MCI

MCI, too, says that NYNEX's plan is unsupported and conflicts with the FCC regulations, and it favors the plan under which each carrier would pay its own costs of implementing INP. It agrees with AT&T that, given the interim nature of this issue, determining (and litigating) the incremental costs for remote call forwarding, direct inward dialing, and route indexing would not be worth the resources and effort. On the issue of sharing access charge revenues, MCI proposes a plan similar to that of AT&T's. The forwarding local exchange carrier would charge the IXC for transport from the IXC's point of presence to the end office where the call terminates. The terminating local exchange carrier would charge the IXC its switched access rates, minus any charge that the forwarding IXC has already charged. The forwarding carrier would provide call records to enable this sharing to occur.

3. Analysis and Findings

Section 251(e)(2) of the Act states: "The cost of establishing ... number portability shall be borne by all telecommunications carriers on a competitively neutral basis" and left it to the FCC to determine how that should be defined and accomplished. In the INP Order, the FCC has defined "competitively neutral basis" to mean that "the cost of number portability borne by each carrier does not affect significantly any carrier's ability to compete with other carriers for customers in the marketplace." It further states that it is appropriate to depart from cost causation principles if necessary to carry out this task because number portability is, itself, essential to competition, and "to price number portability on a cost causative basis could defeat the purpose for which it is mandated." INP Order at ¶ 131. The FCC has offered the states four alternatives for the treatment of INP. Id. at ¶ 136.

NYNEX's first proposal does not meet the FCC's standard. The FCC clearly states that "requiring the new entrant to bear all of the costs, measured on the basis of incremental costs of currently available number portability methods, would not comply with the statutory requirements of section 251(e)(2)." Id. at ¶ 138. Notwithstanding NYNEX's assertion that the prices it offers in its first proposal are "conservative" relative to those that would be determined in an incremental cost study, it is, in essence, using such an incremental costing approach to justify the reasonableness of those prices. This is at variance with the FCC's INP Order and cannot be accepted.

We find the Rochester Plan attractive conceptually because it provides for an equitable

sharing of INP costs by assigning such costs proportionally among all carriers based on lines in service. It does, however, require a determination of the total switching and transport costs associated with INP. Use of such a method might be troubling, in that it would appear to invite dispute and litigation over the numerator of the fraction. Fortunately, we have an extensive record in this proceeding that will result in the pricing of the switching and transport elements that underlie the provision of INP. Accordingly, we determine that the Rochester Plan shall be used as the basis for apportioning the costs of INP, with the understanding that the switching and transport costs that we determine in Phase 4 to be appropriate will also be applied in the INP calculation.

We turn now to the question of access charge revenues. We agree with AT&T and MCI that an equitable sharing of access charge revenues is part and parcel of the INP issue. Their proposal for a "meet point" billing arrangement is superior to that of NYNEX, in that the access charge revenues are fairly distributed between the carriers rather than being retained by the forwarding carrier. We have considered NYNEX's argument that it should be entitled to a greater share of these access charges because it, as the incumbent carrier, will be forwarding more ported numbers to other carriers. We have dealt with this issue above. The more NYNEX is forwarding calls to other carriers, the more those carriers will pay of the INP costs. Given this fundamentally fair approach to those costs, there is no rationale for permitting a disproportionate share of the access charge revenues to go to the ILEC.

Finally, we note that there is a minor difference between the descriptions of the MCI

approach and the AT&T approach to access charges. We adopt MCI's formulation, in that it makes it clear (by netting out the forwarding carrier's access charge) that the total access charges collected by the two carriers cannot exceed the amount that would have been collected by a single local exchange carrier in a non-INP environment.

G. Dark Fiber

1. Introduction

Dark fiber consists of a fiber optic strand that is in place in a network but is not connected to electronic equipment needed to power the line in order to transmit information. AT&T and MCI have asked that they be provided access to NYNEX's dark fiber and lease it as an unbundled network element.

2. Positions of the Parties

a. NYNEX

NYNEX asserts that such a request should not be allowed because it is not required by the Act or the Local Competition Order, nor is it in the public interest. NYNEX notes that AT&T has the ability to purchase and build fiber cables for itself. It asserts, therefore, that the "impairment standard" established in the Act to identify unbundled elements which should be made available to competitors in order to promote competition would not be met. NYNEX also raises a series of operational, security, maintenance, billing, and capacity concerns that, it contends, make imposition of a leasing requirement inappropriate from a public policy standpoint. We describe these in greater detail below.

b. AT&T

AT&T expects to deploy synchronous optical network ("SONET") rings in certain market areas in order to establish facilities-based competition with NYNEX. It argues that allowing access to NYNEX's unused fiber under reasonable terms and conditions will promote and accelerate the development of facilities-based competition, which will benefit customers in the state. It will enable such an acceleration, says AT&T, because it will permit AT&T to avoid obtaining rights-of-way, conduit, duct and pole space and will reduce the amount of construction needed to build facilities. AT&T says that NYNEX's technical concerns about allowing AT&T access to dark fiber are without merit.

3. Analysis and Findings

The question of whether dark fiber should be considered an unbundled network element for purposes of resale was left unresolved by the FCC. Local Competition Order at ¶ 450. Therefore, we must determine whether it should be, based on the conditions relevant to this jurisdiction, and being mindful that any such requirements we might impose for resale are consistent with the Act and the Local Competition Order. Local Competition Order at ¶¶ 243-244. The standard we apply to determine whether dark fiber should be made available for resale as an unbundled network element is whether it represents an essential discrete service whose lack of resale would represent a bar to effective competition in the Massachusetts telecommunications marketplace. If so, we must further examine whether it is physically practical to offer such a service. If both conditions are met, we must determine the appropriate pricing

methodology for it.

Dark fiber has both similarities to and differences from the other unbundled network elements for which we are determining prices for resale. It is similar in that it is physically part of the local exchange telecommunications network owned and controlled by an ILEC. It is present in both interoffice transport and feeder portions of that network. The fact that, by definition, dark fiber is currently unused in the provision of service to customers does not distinguish it from other portions of the network. Virtually all portions of the network are designed to have surplus capacity relative to that which would be needed to meet current levels of demand (see, e.g., Tr. 8, at 218-222; Tr. 9, at 46-50). This would be especially expected in the case of fiber, as it is common practice for an ILEC to install much more capacity than is currently needed because of the dramatic economies of scale involved in the installation of this equipment (Tr. 5, at 14; Tr. 8, at 252-253, 263-267).

Dark fiber is different from other unbundled network elements in that it uniquely describes itself as an element. A contrasting example or two might make this distinction clear. In naming the local loop as an unbundled network element, we describe a telecommunications function, not a unique piece of equipment. A local loop consists of a number of pieces of equipment (e.g., distribution cable, feeder, loop concentrator), many of which can be provided by a variety of types of equipment. For example, feeder might be constructed of either copper cable or fiber strands. Likewise, switching, another unbundled network element, is a function that might be provided by any of a number of types of switching equipment. In the case of these elements, it is the

functionality of the element that is being offered for resale to a competitive carrier, however that functionality might be provided by the ILEC. In the case of dark fiber, the functionality and the equipment itself are uniquely paired. The competitive carriers seek to purchase dark fiber because it is fiber. As such, it offers unique physical capabilities that they view as having value. If it were copper, they would not be interested in purchasing it for those purposes (Tr. 5, at 13-16, 28-33).

The purposes set forth by the competing carriers include the same purposes for which NYNEX uses fiber in Massachusetts, i.e., construction of a SONET ring, a configuration of optical fiber and other facilities that enables a carrier to monitor and maintain service to a given geographic area. SONET rings can take the form of "backbone rings," very large rings connecting a number of serving offices, or access rings, connecting a smaller geographic region within a serving office (Tr. 5, at 30-31; also pictorially presented in Exh. NYNEX-11, Exhibit C, pp. 1-6). The ring-type of system architecture is an important and generally accepted standard in the industry and specifically in Massachusetts (Tr. 5, at 67; Tr. 6, at 27-29; Tr. 11, at 11-12). It enables a carrier, for example, to detect a cut in a cable and redirect service so that the customer does not experience an interruption (Tr. 5, at 14). This is obviously of importance to the types of large business customers located in this state, whose voice and data telecommunications traffic flows have commercial value, but it is also important to the large number of smaller customers whose service quality is better maintained through the existence of such rings (Tr. 11, at 13-14). Accordingly, we find, on the basis of the evidence presented, that the use of fiber in SONET rings is an essential part of Massachusetts local exchange service.

Having established the essential nature of the underlying architecture, we now turn to the question of whether the provision of a component of that architecture should be made available by NYNEX to competing carriers. Here, too, we find a direct analogy with other unbundled network elements. The purpose of the Act and the Local Competition Order, in requiring the provision of unbundled network elements, is to offer competing carriers a choice in the how to configure their facilities-based and non-facilities-based networks. Simply put, they are given the option of buying complete service packages from the ILEC or buying unbundled elements which they then can combine with their own facilities to create complete service packages. The Act envisions that competing carriers will make use of an ILEC's unbundled facilities to the extent that it is commercially advantageous to do so, especially where the physical placement of the ILEC's facilities would otherwise provide the ILEC with a competitive advantage. 47 U.S.C. § 251(c)(3).

Mr. Falcone stated quite directly that such was the intent of AT&T in seeking to purchase access to dark fiber: "To the extent that NYNEX already has this cable in the ground with spare capacity . . . AT&T would like the right to lease that fiber . . . to help us build our network to help us so we can compete in the state" (Tr. 5, at 14-15). He also offered persuasive testimony that there are likely to be circumstances in which leasing of dark fiber from NYNEX would be more efficient for a carrier than that carrier building its own fiber facilities (id. at 35, 47). This situation is analogous to that facing competitive carriers choosing whether to provide their own

loops, switching, and other unbundled network elements or to lease them from NYNEX.[4]

In light of this evidence, we find that dark fiber is an essential discrete service whose lack of resale would represent a bar to effective competition in the Massachusetts telecommunications marketplace. In this respect, it is analogous to the other components of service which the FCC has determined should be made available for resale as unbundled networks elements. Accordingly, we conclude that dark fiber should be defined to be an unbundled network element. We now turn to the question of whether there are practical reasons that should foreclose the availability of this element for resale.

We have considered NYNEX's contentions that resale of dark fiber would create untenable logistical difficulties, and we find them to be without merit. We take them in order. First, NYNEX expresses concern that it would have to determine if there is dark fiber in the places that AT&T is requesting it. This would require a review of its records and possibly engaging in site surveys. This is certainly true, but we cannot imagine that it poses an insurmountable difficulty. It appears to us to be exactly parallel to the kind of work that NYNEX would have to do to determine whether it had sufficient fiber capacity for new customers or increased usage for its own purposes along a given route.

Second, NYNEX objects to non-NYNEX personnel entering its fiber vaults for purposes of making an interconnection with a competing carrier's network. While we fully expect that

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[4] In fact, AT&T's proposal is less demanding than that required of NYNEX for other network elements, for NYNEX has the obligation to provide other elements even if there is no spare capacity.

competing carriers will hire network technicians with technical ability on a par with those of NYNEX, we recognize that there may be some differences in operating procedures and technical standards among these organizations. NYNEX's objection, however, is easily remedied (id. at 78). As in the case of provisioning other unbundled network elements to competing carriers, NYNEX will retain the right to establish the physical connection with its own personnel.

Third, NYNEX contends that the lease of particular fiber segments leaves it with the potential of having "stranded," i.e., unusable, strands at either end of the segments in question, making future network planning difficult. We find this argument to be unpersuasive, given the unanimous testimony cited above by NYNEX and other witnesses concerning the dramatic overcapacity built into fiber circuits. Notwithstanding this point, we find that NYNEX's concern is remedied by AT&T's statement that it only seeks to interconnect with NYNEX's fiber at existing splice points. Those splice points are designed for NYNEX, itself, to use as junction points in its network. While we understand that NYNEX has attempted to design its system to minimize the number of times it needs to resplice its fibers, it must conduct such resplicing from time to time, sometimes in excess of the number of times it might have planned (id. at 72-75). Thus, in the case of a NYNEX splice off of a fiber circuit, there also is the possibility that such a splice will leave the "downstream" portion of that fiber unusable. We therefore see little distinction between a splice performed on behalf of NYNEX and that performed for another carrier. However, in a particular case where NYNEX believes that a request by another carrier for lease of its dark fiber would "strand" an unreasonable amount of fiber, then NYNEX will be

allowed to petition the Department for relief from its obligation.

Finally, we find NYNEX's concerns about billing also to be unpersuasive. NYNEX asserts that unbundled elements should have identifiable billing parameters which provide for quantification of the level of use of the network elements and a format that is amenable to recording and billing. It states that this is not possible for the utilization of dark fiber because there is an unlimited range of possible capacities of the fiber. Our view is that it should be quite straightforward to determine an appropriate price for dark fiber, using the same kind of incremental costing methodology we are using for all other unbundled network elements. We recognize that, in this case, the price might be based on the length of fiber, the type of fiber, and perhaps the physical placement (aerial versus underground), rather than the degree of use to which the fiber is put, since it may be these other parameters that are the primary determinants of cost. These parameters, however, should present no insurmountable costing and pricing obstacle to NYNEX, as they are precisely the metrics that are used throughout its unbundled element costs studies, particularly in defining the costs of local loops and transport services (Exh. NYNEX-11 and associated workpapers and information responses).

Accordingly, we conclude that it is physically practical to offer dark fiber as an unbundled network element. Before turning to the pricing issue, however, we address one final concern, whether NYNEX does not have to make available for resale a particular fiber circuit that may have been installed by NYNEX to serve growth in a particular part of its network. We accept AT&T's suggestion that, if NYNEX has a bona fide reason to reserve some dark fiber strands

(e.g., they have been installed or allocated to serve a particular customer in the near future), it need not make those available for resale (Tr. 5, at 34-35). Such a reason, however, must be clearly documented, lest it be used as an artificial barrier to competition. Thus, a general statement by NYNEX that a fiber is needed for unspecified or general future growth, or even for a particular customer's potential long-term growth, will not suffice to relieve it of its obligation to offer the dark fiber for resale. We believe that this and the other requirements we impose with regard to the offering of dark fiber as an unbundled network element are consistent with the Act and the Local Competition Order.

On the pricing issue, having determined that dark fiber should be offered by NYNEX for resale as an unbundled network element, we conclude that the same pricing methodology used for other unbundled network elements should be applied to dark fiber. For purposes of this arbitration, that is the TELRIC methodology, the application of which is further defined in Phase 4. NYNEX is directed to prepare a study using the TELRIC methodology approved in the Department's Phase 4 Order and submit the result within 30 days of the date of that Order.

H. AIN Triggers

1. Introduction

An AIN trigger is a function that interrupts a switch's normal processing of a call to activate a query to a remote switch to obtain further call processing requirements which are sent back to the host switch. AIN allows features to be added to a database that is accessed by a switch. This permits a carrier to add a new service or feature through changes only in the

database, rather than making changes in the switch software on each of the various switch technologies deployed in the network.

2. Positions of the Parties

a. NYNEX

NYNEX argues that it should not be required to provide as yet unspecified AIN switch triggers as an unbundled network element. NYNEX states that AT&T's generic request to activate a latent trigger does not indicate the purpose for which that trigger would be used. Without this information, says NYNEX, it will not be able to evaluate how the trigger would affect its network. It asserts that such access would present serious technical and security issues. NYNEX states that it is willing to address specific requests for AIN triggers if AT&T is willing to discuss how its plans for specific triggers will affect the overall network, specific network elements, and/or individual services. Without such information, NYNEX asserts, it would have no assurance that its network and services would not be adversely affected. NYNEX also states that a generic request to activate an AIN trigger might cause discriminatory treatment of customers of another carrier on a switch, where that carrier did not request such access. It notes that activating a latent trigger requires the development of additional software to implement the associated capability. Finally, NYNEX urges the Department not to make such a "critical decision on a highly technical issue affecting network reliability and security based upon virtually no record" (NYNEX Reply Brief at 12).

b. AT&T

AT&T frames the issue quite differently from NYNEX. It states that its purpose is to ensure access to its own databases when using NYNEX's switch. It asserts that the technology for this access is available and should be provided. It argues that NYNEX's concern about potential harm to the network is unfounded, citing recent industry tests. It notes that there is currently a certification process for interconnecting signalling networks between two carriers and that such a process could be expanded to include access to external data bases from an ILEC's signalling network. AT&T notes that it would be counterproductive for AT&T to demand a function that would jeopardize the NYNEX network because AT&T must rely on that network to provide AT&T with local and long distance service.

3. Analysis and Findings

The FCC has left this issue for state determination. Local Competition Order at ¶¶ 501-502. This is not an issue, as NYNEX would portray it, that requires a record beyond that provided in this case. The company has clearly and completely presented its position. However, that position lacks credibility and presents an unjustifiably conservative view of the functionality and resilience of its telecommunications network. What AT&T requests is, in great measure, what NYNEX has available to itself: the ability to provide service definition and enhancements through interconnection to remote databases rather than on the host switch. We recognize that activation of a trigger would involve technical decisions and activities, but any such decisions and activities will have to meet accepted industry standards to maintain the integrity of the network.

We also agree with AT&T that it has an equal incentive to that of NYNEX to ensure that such standards are met, given its reliance on that same network for local and long distance service.

Regarding NYNEX's other arguments, we disagree that offering AIN triggers is discriminatory, so long as it is available to all carriers and so long as the implementation of such triggers does not adversely affect the service provided to other carriers. This latter condition, as we noted, is inherent in the network standards that must be met. We address the issue of additional software costs associated with provision of this service in the section on service ordering in our Phase 4 Order.

Accordingly, we find that NYNEX should offer AIN triggers as an unbundled network element. To the extent that this offering must be contingent upon appropriate technical and procedural mechanisms, that general condition may be included in the interconnection agreement, subject to the dispute resolution procedures also contained in the agreement.

IV. ORDER

After notice, hearing and consideration, it is

ORDERED: That the issues under consideration in this Phase 3 be determined as set forth above; and it is

FURTHER ORDERED: That the parties incorporate these determinations into a final agreement, setting forth both negotiated and arbitrated terms and conditions, to be filed with the Department pursuant to the Section 252(e)(1) of the Act, by January 10, 1997; and it is

FURTHER ORDERED: That the parties comply with all other directives contained herein.

By Order of the Department,

John B. Howe, Chairman

Janet Gail Besser, Commissioner