

industry and EPA from this action is \$5,035,000 and the upper bound estimate is \$7,801,000.

This action does not impose any Federal mandate on State, local or tribal governments or the private sector within the meaning of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4). And, given its deregulatory nature, I hereby certify pursuant to the Regulatory Flexibility Act (5 U.S.C. 605(b)), that this action does not have a significant economic impact on a substantial number of small entities. As required, information to this effect has been forwarded to the Small Business Administration.

This action does not have any information collection requirements subject to the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. The elimination of the information collection components for this action is expected to result in the elimination of 92,000 to 141,000 paperwork burden hours.

In addition, pursuant to Executive Order 12898 (59 FR 7629, February 16, 1994), entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," the Agency has determined that there are no environmental justice related issues with regard to this action since this final rule simply eliminates reporting requirements for a chemical that, under the criteria of EPCRA section 313, does not pose a concern for human health or the environment.

Under 5 U.S.C. 801(a)(1)(A) of the Administrative Procedure Act (APA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (Title II of Pub. L. 104-121, 110 Stat. 847), EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives and the Comptroller General of the General Accounting Office prior to publication of the rule in today's Federal Register. This rule is not a "major rule" as defined by 5 U.S.C. 804(2) of the APA as amended.

List of Subjects in 40 CFR Part 372

Environmental protection,
Community right-to-know, Reporting
and recordkeeping requirements, Toxic
chemicals.

Dated: July 19, 1996.

Lynn R. Goldman,
Assistant Administrator, Office of Prevention,
Pesticides and Toxic Substances.

Therefore, 40 CFR part 372 is
amended as follows:

1. The authority citation for part 372
continues to read as follows:

Authority: 42 U.S.C. 11023 and 11048.

§ 372.65 [Amended]

2. Sections 372.65(a) and (b) are amended by adding the parenthetical to the entry for hydrochloric acid to read "Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)" under paragraph (a) and for CAS number entry 7647-01-0 under paragraph (b).

[FR Doc. 96-18944 Filed 7-24-96; 8:45 am]

BILLING CODE 6560-50-F

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 20 and 52

[CC Docket No. 95-116; FCC 96-286]

Telephone Number Portability

AGENCY: Federal Communications
Commission.

ACTION: Final rule.

SUMMARY: On June 13, 1995, The Commission adopted a notice of proposed rulemaking (CC Docket No. 95-116) regarding telephone number portability. The First Report and Order released July 2, 1996, promulgates rules and regulations implementing the statutory requirement that local exchange carriers (LECs) provide number portability as set forth in section 251 of the Telecommunications Act of 1996 (1996 Act). The Report and Order mandates the implementation of number portability by LECs, consistent with the procompetitive goals of the Telecommunications Act of 1996. Concurrently with the adoption of the Report and Order, the Commission adopted a Further Notice of Proposed Rulemaking which is published elsewhere in this issue.

EFFECTIVE DATE: August 26, 1996.

FOR FURTHER INFORMATION CONTACT: Jason Karp, Attorney, Common Carrier Bureau, Policy and Program Planning Division, (202) 418-1517, or Mindy Littell, Attorney, Common Carrier Bureau, Policy and Program Planning Division, (202) 418-1394. For additional information concerning the information collections contained in this Report and Order contact Dorothy Conway at 202-418-0217, or via the Internet at dconway@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's First Report and Order adopted June 27, 1996, and released July 2, 1996. The full text of this First Report and Order is

available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M St., NW., Washington, DC. The complete text also may be obtained through the World Wide Web, at <http://www.fcc.gov/Bureaus/CommonCarrier/Orders/fcc96286.wp>, or may be purchased from the Commission's copy contractor, International Transcription Service, Inc., (202) 857-3800, 2100 M St., NW., Suite 140, Washington, DC 20037. Pursuant to Section 251, the Report and Order establishes performance criteria for acceptable long-term number portability methods and requires all LECs to begin deploying number portability in the 100 largest Metropolitan Statistical Areas (MSAs) no later than October 1, 1997, and to complete deployment in those MSAs by December 31, 1998, in accordance with a phased schedule. Number portability must be provided in these areas by all LECs to all telecommunications carriers, including commercial mobile radio services (CMRS) providers. In addition, pursuant to the Commission's independent authority under sections 1, 2, 4(i) and 332 of the Communications Act of 1934, as amended, the Report and Order requires all cellular, broadband personal communications services (PCS) and covered Specialized Mobile Radio (SMR) service providers to be able to deliver calls from their networks to ported numbers anywhere in the country by December 31, 1998, and requires cellular, broadband PCS and covered SMR customers to be able to move their own numbers to other carriers by June 30, 1999. In the Report and Order, the Commission delegates responsibility to the North American Numbering Council (NANC) to oversee the initial administration of the system of regional databases which will be used by carriers to provide number portability. Pursuant to the 1996 Act, the Commission also requires LECs to provide currently available number portability measures upon specific request from another carrier until long-term number portability is available. However, the Report and Order concludes that CMRS providers need not provide such measures due to technical considerations specific to the CMRS industry. In addition, consistent with section 251(e)(2) of the Telecommunications Act of 1996, the Report and Order sets forth principles that ensure that the costs of currently available measures are borne by all telecommunications carriers on a competitively neutral basis, and permits states to utilize various cost recovery mechanisms, so long as they are

consistent with these statutory requirements.

Regulatory Flexibility Analysis:

As required by the Regulatory Flexibility Act, the Report and Order contains a Final Regulatory Flexibility Analysis which is set forth in Appendix C to the Report and Order. A brief description of the analysis follows.

The rules adopted in this Report and Order are necessary to implement the provisions of the Telecommunications Act of 1996 requiring LECs to offer number portability, if technically feasible.

Although there were no comments submitted in response to the Initial Regulatory Flexibility Analysis set forth in the Notice of Proposed Rulemaking, the general comments of Chief Counsel for Advocacy of the United States Small Business Administration (SBA) generally supported the actions of the Commission in the Report and Order. However, in their general comments filed prior to the passage of the 1996 Act, some LECs suggested that the Commission should neither adopt, nor direct the adoption of, number portability without performing a thorough cost/benefit analysis—a course of action which may result in less of an impact on small entities. However, after passage of the 1996 Act, most parties agreed that the 1996 Act clearly directs the Commission to implement long-term number portability.

The statutory meaning of the term “small business” is one which (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA). According to SBA’s regulations, entities engaged in the provision of telephone service may have a maximum of 1,500 employees in order to qualify as a small business concern. 13 CFR 121.201. This standard also applies in determining whether an entity is a small business for purposes of the Regulatory Flexibility Act.

The rules adopted by the Commission governing long-term number portability apply to all LECs, including incumbent LECs as well as new LEC entrants, and also apply to cellular, broadband PCS, and covered SMR providers. According to the SBA definition, incumbent LECs

do not qualify as small businesses because they are dominant in their field of operation. However, the rules may have a significant economic impact on a substantial number of small businesses insofar as they apply to telecommunications carriers other than incumbent LECs, such as new entrant LECs, as well as cellular, broadband PCS, and covered SMR providers. Based upon data contained in the most recent census and a report by the Commission’s Common Carrier Bureau, the Commission estimated that 2,100 carriers could be affected. This estimate was derived based on an analysis using census data on the number of firms with fewer than 1,000 employees and subtracting the number of incumbent LECs (as established by an FCC report). For a detailed analysis, see Appendix C of the Report and Order.

There are several reporting requirements imposed by the Report and Order which will likely require the services of persons with technical expertise to prepare the reports. First, carriers participating in a field test in the Chicago, Illinois, area are required to file with the Commission a report of their findings within 30 days after completion of the test. Second, after December 31, 1998, long-term number portability must be provided by LECs outside of the 100 largest MSAs within six months after a specific request by another telecommunications carrier in which the requesting carrier is operating or plans to operate. The specific request must contain certain information. Third, state regulatory commissions must file with the Commission a notification if they opt to develop a state-specific database in lieu of participating in a regional database system. Carriers that object to a state decision to opt out of the regional database system may file with the Commission a petition for relief. Fourth, the item requires any administrator selected by a state prior to the release of the Report and Order, that wishes to bid for administration of one of the regional databases, must submit a new proposal in accordance with the guidelines established by the NANC. Fifth, the Report and Order requires carriers that are unable to meet the deadlines for implementing a long-term number portability solution to file with

the Commission at least 60 days in advance of the deadline a petition to extend the time by which implementation in its network will be completed. Finally, we require an industry body known as the Industry Numbering Committee (INC) to file a report with the Commission on the portability of non-geographic numbers assigned to LECs within 12 months after the effective date of the Report and Order.

The Commission’s actions in this Report and Order will benefit small entities by facilitating their entry into the local exchange market. The record in this proceeding indicates that the lack of number portability would deter entry by competitive providers of local service because of the value customers place on retaining their telephone numbers. These competitive providers, many of which may be small entities, may find it easier to enter the market as a result of number portability which will eliminate this barrier to entry.

In general, the Commission has attempted to keep burdens on local exchange carriers to a minimum. For example, the phased deployment schedule requires long-term number portability to be implemented initially in the 100 largest MSAs, and then elsewhere upon a carrier’s request. The provision of currently available measures is conditioned upon request only. In addition, the Commission has attempted to minimize the impact of our rules upon cellular, broadband PCS, and covered SMR providers, which may be small businesses, by not requiring such carriers to offer currently available number portability measures. Similarly, paging and messaging service providers, which may be small entities, are required to provide neither currently available measures nor long-term number portability under our rules. The regulatory burdens imposed are necessary to ensure that the public receives the benefit of the expeditious provision of service provider number portability in accordance with the statutory requirements.

Paperwork Reduction Act

Public reporting burden for the collections of information is estimated as follows:

Information collections	Estimated avg. hours per response	Estimated number of respondents (all are one-time only responses)
Field test report	20 hours per respondent (joint response).	11

Information collections	Estimated avg. hours per response	Estimated number of respondents (all are one-time only responses)
Requests for long-term number portability in areas outside the 100 largest MSAs	3 hours	80
State notification of intention to "opt out" of regional database system	3 hours	5
Carrier petitions challenging state decision to "opt out" of regional database system	10 hours	2
Proposal to administer database(s)	160 hours	1
Petitions to extend implementation deadline	10 hours	8

Total Annual Burden: 735 hours.

Frequency of Response: All collections of information require one-time only responses.

These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collections of information. Send comments regarding these burden estimates or any other aspects of the collections of information, including suggestions for reducing the burden, to the Federal Communications Commission, Records Management Branch, Room 234, Paperwork Reduction Project, Washington, DC 20554 and to the Office of Management and Budget, Paperwork Reduction Project, Washington, DC 20503.

Synopsis of First Report and Order

I. Introduction

1. We initiated this proceeding on July 13, 1995, when we adopted a Notice of Proposed Rulemaking seeking comment on a wide variety of policy and technical issues related to telephone number portability (60 FR 39136 (August 1, 1995)). Since our adoption of the NPRM, the Telecommunications Act of 1996 became law. Section 251, added by the 1996 Act, requires all local exchange carriers (LECs), both incumbents and new entrants, to offer number portability in accordance with requirements prescribed by the Commission. On March 14, 1996, the Common Carrier Bureau released a Public Notice seeking comment on how the passage of the 1996 Act may have affected the issues raised in the NPRM (61 FR 11174 (March 19, 1996)). Comments in response to the Public Notice were received on March 29, 1996, and reply comments were filed on April 5, 1996. In addition, efforts to implement number portability at the state level have progressed since adoption of the NPRM.

2. The Telecommunications Act of 1996 establishes "a pro-competitive, deregulatory national policy framework"

that is intended to "promote competition and reduce regulation * * * to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies." The statute imposes obligations and responsibilities on telecommunications carriers, particularly incumbent local exchange carriers, that are designed to open monopoly telecommunications markets to competitive entry and to promote competition in markets that already are open to new competitors. In particular, section 251(b) imposes specific obligations on all local exchange carriers to open their networks to competitors. The Act envisions that removing legal and regulatory barriers to entry and reducing economic impediments to entry will enable competitors to enter markets freely, encourage technological development, and ensure that a firm's prowess in satisfying consumer demand will determine its success or failure in the marketplace. In implementing the statute, the Commission has the responsibility to adopt the rules that will implement most quickly and effectively the national telecommunications policy embodied in the 1996 Act. Number portability is one of the obligations that Congress imposed on all local exchange carriers, both incumbents and new entrants, in order to promote the pro-competitive, deregulatory markets it envisioned. Congress has recognized that number portability will lower barriers to entry and promote competition in the local exchange marketplace. In its report, the Senate Committee on Commerce, Science, and Transportation concluded that the "minimum requirements [for interconnection set forth in new section 251(b), including number portability,] are necessary for opening the local exchange market to competition." Likewise, the House of Representatives Committee on Commerce determined that "the ability to change service providers is only meaningful if a

customer can retain his or her local telephone number."

3. In this Order, we promulgate rules and regulations implementing this congressional directive. Although we decline to choose a particular technology for providing number portability, we establish in this Report and Order performance criteria that any long-term number portability method selected by a LEC must meet. Pursuant to the statutory requirement in section 251 to provide number portability, we require all LECs to begin to implement a long-term service provider portability solution that meets our performance criteria in the 100 largest Metropolitan Statistical Areas (MSAs) no later than October 1, 1997, and to complete deployment in those MSAs by December 31, 1998, in accordance with a phased schedule set forth below. Number portability must be provided in these areas by all LECs to all telecommunications carriers, including commercial mobile radio services (CMRS) providers.

4. The statute explicitly excludes CMRS providers from the definition of local exchange carriers, and therefore from the section 251(b) obligations to provide number portability, unless the Commission concludes that they should be included in the definition of local exchange carrier. Our recent Notice of Proposed Rulemaking on interconnection issues raised by the 1996 Act sought comment generally on whether, and to what extent, CMRS providers should be classified as LECs. Because we conclude that we have independent authority under sections 1, 2, 4(i), and 332 of the Communications Act of 1934, as amended, to require cellular providers, broadband personal communications services (PCS), and covered Specialized Mobile Radio (SMR) providers to provide long-term service provider portability, we need not decide here whether CMRS providers must provide number portability as local exchange carriers under section 251(b). We require all cellular, broadband PCS, and covered SMR providers to have the capability of delivering calls from their networks to

ported numbers anywhere in the country by December 31, 1998, and to offer service provider portability, including the ability to support roaming, throughout their networks by June 30, 1999.

5. We conclude that a system of regional databases that are managed by an independent administrator will serve the public interest. We direct the North American Numbering Council (NANC) to provide initial oversight of this regional database system. We direct the NANC to determine the number and location of the regional databases and to select one or more administrators responsible for deploying the database system. Any state that prefers to develop its own statewide database rather than participate in a regionally-deployed database, however, may opt out of its designated regional database and implement a state-specific database. We will retain authority to override a state's decision to develop a statewide database if an affected carrier can demonstrate that the state's proposal would significantly delay deployment of a long-term method or impose unreasonable costs on affected carriers.

6. Until long-term service provider portability is available, we require LECs to provide currently available number portability measures, such as Remote Call Forwarding (RCF) and Direct Inward Dialing (DID), upon specific request from another carrier. We conclude, however, that commercial mobile radio service providers need not provide such measures due to technical considerations specific to the CMRS industry. We enunciate principles that ensure that the costs of currently available measures are borne by all telecommunications carriers on a competitively neutral basis, and we conclude that states may utilize various cost recovery mechanisms, so long as they are consistent with these statutory requirements. We decline at this time to require the provision of either service or location portability. We conclude that, while the statute requires LECs to implement 500 and 900 number portability, there is insufficient record evidence to determine whether LEC provision of portability for 500 and 900 numbers is technically feasible. As a result, we refer the issue to the Industry Numbering Committee (INC), which must report its findings to the Commission within 12 months of the effective date of this Order. Finally, we adopt a Further Notice of Proposed Rulemaking regarding cost recovery for long-term number portability.

II. Background

A. Telecommunications Act of 1996

7. New section 251(b)(2) of the Communications Act of 1934, as added by the 1996 Act, directs each local exchange carrier "to provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission." The 1996 Act defines the term "local exchange carrier" as:

any person that is engaged in the provision of telephone exchange service or exchange access. Such term does not include a [commercial mobile service provider,] as defined under section 332(c), except to the extent that the Commission finds that such provider should be included in the definition of such term.

The 1996 Act defines "number portability" as "the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another."

8. The 1996 Act defines the term "telecommunications carrier" as "any provider of telecommunications services, except that such term does not include aggregators of telecommunications services (as defined in section 226)." The term "telecommunications service" is defined by the 1996 Act as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used." Because the 1996 Act's definition of number portability requires LECs to provide number portability when customers switch from any telecommunications carrier to any other, the statutory obligation of LECs to provide number portability runs to other telecommunications carriers. Because CMRS falls within the statutory definition of telecommunications service, CMRS carriers are telecommunications carriers under the 1996 Act. As a result, LECs are obligated under the statute to provide number portability to customers seeking to switch to CMRS carriers.

9. In addition to the duties imposed by section 251(b) on all LECs, section 251(c)(1) imposes upon incumbent LECs, *inter alia*, the "duty to negotiate in good faith * * * the terms and conditions of agreements to fulfill" the section 251(b) obligations, including the duty to provide number portability. An incumbent LEC is defined as a carrier that was providing exchange access service in a particular area on February 8, 1996, and was a member of the

National Exchange Carrier Association (NECA) pursuant to § 69.601(b) of the Commission's regulations. The 1996 Act creates an exemption from the obligations of section 251(c) for rural telephone companies, and allows LECs with fewer than two percent of the nation's subscriber lines to petition a state commission for suspension or modification of the application of sections 251(b) and (c).

10. Section 251(e)(1) reinforces the Commission's authority over matters relating to the administration of numbering resources by giving the Commission exclusive jurisdiction over those portions of the North American Numbering Plan (NANP) that pertain to the United States. This subsection also requires the Commission to "create or designate one or more impartial entities to administer telecommunications numbering and to make such numbers available on an equitable basis." Moreover, section 251(e)(2) provides that the cost of "number portability shall be borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission."

11. Finally, new section 271(c)(2)(B) establishes a "competitive checklist" of requirements that the Bell Operating Companies (BOCs) must meet to provide in-region interLATA services. One of the requirements that the BOCs must satisfy is the provision of "interim number portability through remote call forwarding, direct inward dialing trunks, or other comparable arrangements, with as little impairment of functioning, quality, reliability, and convenience as possible" until the Commission issues regulations pursuant to section 251 to implement the statute's number portability requirements. Section 271(c)(2)(B)(xi) directs the BOCs to comply fully with the regulations implemented by the Commission.

B. Proposed Number Portability Methods

12. Because most telephone numbers within the NANP are associated with a particular switch operated by a particular service provider, they currently cannot be transferred outside the service area of a particular switch or between switches operated by different service providers without technical changes to the switch or network. Several methods exist, or are being developed, to provide telephone number portability. These methods generally consist of two types: database and non-database methods.

1. Database Methods

13. Several industry participants have proposed methods for providing service provider portability that use databases containing the customer routing information necessary to route telephone calls to the proper terminating locations. All these methods depend on Intelligent Network (IN) or Advanced Intelligent Network (AIN) capabilities. Before the release of our NPRM, AT&T proposed a Location Routing Number (LRN) method to the Industry Numbering Committee (INC), an industry body that provides an open forum to address and resolve industry-wide issues associated with the non-policy-related planning, administration, allocation, assignment, and use of numbering resources within the NANP area. Since it proposed LRN to the INC, AT&T has continued to develop and refine this method. Essentially, LRN assigns a unique 10-digit telephone number to each switch in a defined geographic area. The location routing number serves as a network address. Carriers routing telephone calls to customers that have transferred their telephone numbers from one carrier to another perform a database query to obtain the location routing number that corresponds to the dialed telephone number. The database query is performed for all calls to switches from which at least one number has been ported. The carrier then would route the call to the new carrier based on the location routing number.

14. MCI, DSC Communications, Nortel, Tandem Computers, and Siemens Stromberg-Carlson have developed a method referred to as the Carrier Portability Code (CPC) method. This method operates in a similar manner to LRN. Under CPC, however, the database associates the dialed telephone number with a 3-digit carrier portability code identifying the particular carrier to whom the dialed number has been transferred, rather than a particular switch. As described below, many of the parties in this proceeding and staff of some state commissions consider the CPC method to be an interim database solution.

15. Stratus Computer and US Intelco have developed another database method commonly referred to as Local Area Number Portability (LANP). This method uses two "domains" of 10-digit numbers to route telephone calls to customers that have transferred their numbers to new carriers or new geographic locations. Specifically, LANP assigns a ten-digit customer number address (CNA) to each end user; this is the number that callers would

dial to place telephone calls to the particular end user. It also assigns each customer a 10-digit network node address (NNA) that identifies where in the telephone network to reach the particular end user. Both the CNA and the NNA are stored in routing databases so that carriers can determine from the dialed telephone number where in the network to reach the called party.

16. GTE has proposed both on the record in this proceeding and before the INC what it refers to as the Non-Geographic Number (NGN) method. While this method uses a database, it operates in a fundamentally different manner from CPC, LRN, and LANP. The NGN method would provide service provider and location portability to end users by assigning them non-geographic telephone numbers, such as an INPA (interchangeable numbering plan area) code that has been assigned for non-geographic numbers. Telephone calls to such end users would be routed in much the same way as toll free calls are today, by performing a database query to determine the geographic telephone number corresponding to the dialed non-geographic telephone number, and routing the call to the appropriate geographic number.

17. Pacific Bell has proposed a triggering mechanism which operates in conjunction with the same addressing scheme utilized in AT&T's LRN method. This mechanism, called Query on Release (QOR) or Look Ahead, determines under what circumstances a database query is performed. Under QOR, the signalling used to set up a telephone call is routed to the end office switch to which the dialed telephone number was originally assigned (the release switch), i.e., according to the NPA-NXX of the dialed number. If the dialed number has been transferred to another carrier's switch, the previous switch in the call path queries the database to obtain the routing information. The call is then completed to the new carrier's switch.

18. Another number portability method triggering mechanism that is similar to QOR is Release-to-Pivot (RTP). RTP differs from QOR in that when a number has been ported from the release switch, the release switch—rather than the previous switch in the call path—returns the address information necessary for routing the call. The information regarding where to route the telephone call, if the number has been transferred, may be contained either in the release switch or an external database.

2. Non-Database Methods

19. In our NPRM, we discussed two currently available methods of providing service provider portability that do not use databases: Remote Call Forwarding and Flexible Direct Inward Dialing. These methods are commonly referred to as "interim measures." While most LECs currently are able to port numbers to other service providers using these methods, they suffer from certain limitations that make them unsuitable for long-term number portability. RCF redirects calls to telephone numbers that have been transferred by essentially placing a second telephone call to the new network location. DID routes the second call over a dedicated facility to the new service provider's switch, instead of translating the dialed number to a new number.

20. In the NPRM, we also discussed three derivative methods of RCF and DID (enhanced remote call forwarding, route index/portability hub, and hub routing with AIN), all of which require routing incoming calls to the terminating switch identified by the NPA-NXX code of the dialed phone number. Unlike RCF and DID, they use LEC tandem switches to aggregate calls to a particular competing service provider before those calls are routed to that provider. In addition, LECs in several states reportedly are providing Directory Number Route Indexing (DNRI), which first routes incoming calls to the switch to which the NPA-NXX code was originally assigned, then routes ported calls to the new service provider either through a direct trunk or by attaching a pseudo NPA to the number and using a tandem, depending on availability.

C. Current State Efforts

1. State Task Forces and Implementation

21. Parties to this proceeding report that several states have established task forces of industry participants or are otherwise beginning to investigate the development and implementation of long-term number portability methods. Those states include: Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Kansas, Maryland, Michigan, Minnesota, New York, Ohio, Oregon, Texas, Utah, Virginia, Washington, Wisconsin, and Wyoming. Of these states, the task forces in Colorado, Florida, Georgia, Illinois, Maryland, and New York have all selected AT&T's Location Routing Number method for implementing service provider number portability in areas within their states'

boundaries. In addition, the state commissions of Colorado, Georgia, Illinois, Maryland, New York, and Ohio have adopted the recommendation of their staff and task forces to implement LRN. Parties to this proceeding assert, moreover, that state task forces or commissions in other states, such as Indiana, Michigan, and Wisconsin, as well as in Canada, are utilizing the results of the Illinois task force's efforts in the area of number portability.

22. Several states have set implementation schedules for the portability methods they have selected. Switch vendors have committed to make available LRN software to carriers in Illinois in the second quarter of 1997. Colorado, Illinois, and Georgia plan to begin deploying LRN in mid-1997. New York also expects LRN to be generally available for installation in that state in mid-1997, though deployment in certain AT&T switches is expected to begin earlier. Maryland plans to begin implementing LRN by no later than the third quarter of 1997. According to NARUC, Colorado similarly expects LRN availability in the second quarter of 1997 (but plans to monitor switch vendor progress and reevaluate this time frame in the third quarter of 1996). Ohio will use a LRN number portability workshop, to be established within 120 days of the issuance of its June 12, 1996 Order, to establish the time frame and manner of the implementation of LRN in Ohio. Michigan has ordered that implementation of long-term number portability in Michigan start at the same time that implementation begins in Illinois. The Illinois and Maryland task forces are examining various implementation issues, including a deployment schedule, cost recovery, billing and rating, and service management system (SMS) administration. The Illinois task force selected an SMS provider in April 1996. The Maryland and Colorado task forces have been planning to release their requests for proposals for their SMS administrators in the second quarter of 1996.

2. State Trials

23. Two states have conducted or are conducting number portability trials. As we described in the NPRM, ten companies, working with the New York Department of Public Service (NY DPS), jointly initiated two number portability trials, one in Rochester and another in Manhattan. The companies originally planned to test the LANP method of Stratus Computers and US Intelco in Rochester, but that trial was canceled. The Manhattan trial, testing the CPC method, began in early February of this

year. The New York DPS, however, now considers CPC to be, at best, an interim method and has changed the trial's emphasis from the technical aspects of the method to the operational and administrative aspects of the intercompany procedures that are required to change a customer from one local exchange provider to another. MCI, one of the original proponents of CPC, no longer views CPC as a viable long-term method.

24. A group of telecommunications service providers conducted a technical trial of the LANP method in Seattle, Washington, during 1995. That trial ended in December 1995. The objective of the technical trial was to identify the technical, operational, and administrative issues that arise when a telephone number is not associated with a specific geographic location. Because the trial revealed certain technical and operational difficulties with the LANP technology, the Washington task force on number portability declined to adopt LANP. The Washington Utilities and Transportation Commission has not adopted LANP, and the companies involved in the trial have ceased advocating LANP.

3. State Interim Measures

25. Carriers are providing interim portability measures in a number of states, either voluntarily or pursuant to state commission orders. According to NARUC and other parties to the proceeding, LECs are providing RCF, DID, and/or other comparable arrangements in Arizona, California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Louisiana, Maryland, Massachusetts, Michigan, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Virginia, Washington, Wisconsin, and Wyoming. According to USTA, Alabama and Minnesota are considering interim portability requirements, while North Carolina requires carriers to negotiate interim portability as part of their interconnection agreements.

III. Report and Order

A. Importance of Service Provider Number Portability

1. Background

26. In the NPRM, we tentatively concluded that number portability benefits consumers of telecommunications services and would contribute to the development of competition among alternative providers of local telephone and other telecommunications services. With respect to service provider portability, we sought comment on the effects that local number portability, or lack thereof, would have on the local exchange marketplace. Specifically, we sought comment on the value consumers place on their telephone numbers, the deterrent effect that a lack of number portability would have on consumer decisions to change service providers, and any resultant effect on competition between incumbent local service providers and new competitors in local markets.

2. Discussion

27. Since we adopted the NPRM, Congress passed the 1996 Act, which requires all LECs to "provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission." The 1996 Act defines number portability as "the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another." Accordingly, we hereby modify our proposed definition of number portability to conform to the statutory definition of number portability and note that the statutory definition of this term is synonymous with the NPRM's definition of "service provider portability."

28. Although some incumbent LECs assert that local exchange market competition will develop without number portability, the record developed in this proceeding confirms the congressional findings that number portability is essential to meaningful competition in the provision of local exchange services. Several state commissions have also recognized the significant role that number portability will play in the development of local exchange competition. We, therefore, affirm our tentative conclusion that number portability provides consumers flexibility in the way they use their telecommunications services and

promotes the development of competition among alternative providers of telephone and other telecommunications services.

29. We note that several studies described in the record demonstrate the reluctance of both business and residential customers to switch carriers if they must change numbers. For example, MCI has stated that, based on a nationwide Gallup survey, 83 percent of business customers and 80 percent of residential customers would be unlikely to change local service providers if they had to change their telephone numbers. Time Warner Holdings states that consumers are 40 percent less likely to change service providers if a number change is required. Citizens Utilities notes that approximately 85 percent of the discussions that its subsidiary, ELI, has with potential customers about switching providers end when those potential customers learn that they must change their telephone numbers. The study commissioned by Pacific Bell concludes that, without portability, new entrants would be forced to discount their local exchange service and other competing offerings by at least 12 percent below the incumbent LECs' prices in order to induce customers to switch carriers due to customers' resistance to changing numbers.

30. The ability of end users to retain their telephone numbers when changing service providers gives customers flexibility in the quality, price, and variety of telecommunications services they can choose to purchase. Number portability promotes competition between telecommunications service providers by, among other things, allowing customers to respond to price and service changes without changing their telephone numbers. The resulting competition will benefit all users of telecommunications services. Indeed, competition should foster lower local telephone prices and, consequently, stimulate demand for telecommunications services and increase economic growth.

31. Conversely, the record demonstrates that a lack of number portability likely would deter entry by competitive providers of local service because of the value customers place on retaining their telephone numbers. Business customers, in particular, may be reluctant to incur the administrative, marketing, and goodwill costs associated with changing telephone numbers. As indicated above, several studies show that customers are reluctant to switch carriers if they are required to change telephone numbers. To the extent that customers are reluctant to change service providers

due to the absence of number portability, demand for services provided by new entrants will be depressed. This could well discourage entry by new service providers and thereby frustrate the pro-competitive goals of the 1996 Act.

B. The Commission's Role

1. Background

32. In the NPRM, we tentatively concluded that the Commission has a significant interest in promoting the nationwide availability of number portability due to its impact on interstate telecommunications. We based this interest on four grounds: (1) Our obligation to promote an efficient and fair telecommunications system; (2) the inability to separate the impact of number portability between intrastate and interstate telecommunications; (3) the likely adverse impact deploying different number portability solutions across the country would have on the provision of interstate telecommunications services; and (4) the impact that number portability could have on the use of the numbering resource, that is, ensuring that the use of numbers is efficient and does not contribute to area code exhaust.

33. In the 1996 Act, Congress expressly assigned to the Commission exclusive jurisdiction over that portion of the NANP that pertains to the United States. Moreover, Congress directed the Commission to prescribe regulations for LEC provision of number portability: Section 251(b)(2) requires carriers "to provide, to the extent technically feasible, number portability in accordance with the requirements prescribed by the Commission."

2. Positions of the Parties

34. Prior to passage of the 1996 Act, some LECs asserted that the Commission should neither adopt, nor direct the adoption of, number portability without performing a thorough cost/benefit analysis. Most parties, however, now agree that the 1996 Act clearly directs this Commission to implement long-term number portability. Moreover, some parties contend that this mandate reflects the fact that Congress has weighed the costs and benefits of implementing number portability. USTA adds, however, that the Commission may consider economic efficiencies in determining what rules to implement.

34. Several commenters, while agreeing that the Commission should take a leadership role, urge us to leave certain implementation issues to the

states. USTA advocates allowing the states to determine their own deployment schedules. The California PUC asserts that the Commission's jurisdiction over number portability is not exclusive, and that states must be allowed to implement number portability methods that are most compatible with local exchange competition in each state.

3. Discussion

36. We believe that Congress has determined that this Commission should develop a national number portability policy and has specifically directed us to prescribe the requirements that all local exchange carriers, both incumbents and others, must meet to satisfy their statutory obligations. Section 251(b)(2) requires LECs "to provide, to the extent technically feasible, number portability in accordance with the requirements prescribed by the Commission." Moreover, section 251(e)(1)'s assignment to the Commission of exclusive jurisdiction over that portion of the NANP that pertains to the United States gives us authority over the implementation of number portability to the extent that such implementation will affect the NANP. Consistent with the role assigned to the Commission by the 1996 Act, the record developed in this proceeding overwhelmingly indicates that the Commission should take a leadership role with respect to number portability. We, therefore, affirm our conclusion that we should take a leadership role in developing a national number portability policy. We further note that, in light of Congress's mandate to us to prescribe requirements for number portability, it is not necessary to engage in a cost/benefit analysis as to whether to adopt rules that require LECs to provide number portability in the first instance. We may consider economic and other factors, however, when determining the specific requirements in such rules.

37. The 1996 Act directs this Commission to adopt regulations to implement number portability, and we believe it is important that we adopt uniform national rules regarding number portability implementation and deployment to ensure efficient and consistent use of number portability methods and numbering resources on a nationwide basis. Implementation of number portability, and its effect on numbering resources, will have an impact on interstate, as well as local, telecommunications services. Ensuring the interoperability of networks is essential for deployment of a national number portability regime, and for the

prevention of adverse impacts on the provision of interstate telecommunications services or on the use of the numbering resource. We believe that allowing number portability to develop on a state-by-state basis could potentially thwart the intentions of Congress in mandating a national number portability policy, and could retard the development of competition in the provision of telecommunications services.

C. Performance Criteria for Long-Term Number Portability

1. Background

38. In the NPRM, we sought comment on what long-term number portability methods would be in the public interest. Specifically, we sought comment on various number portability proposals offered by different industry participants, including proposals by AT&T, MCI Metro, Stratus Computer and US Intelco, and GTE. We also sought comment on the extent to which these proposals would support certain services that we deemed important. We tentatively concluded that any method should support operator services and emergency services because they are critical to public safety and are important features of the public switched network. We also tentatively concluded that any number portability proposal should efficiently use telephone numbers. In addition, we discussed and sought comment on which of three call processing scenarios (*i.e.*, which carrier performs the database query in a database method), or any alternative, would best serve the public interest. We sought comment on whether telephone numbers should be portable within local calling areas, throughout a particular area code, state-wide, regionally, nationwide, or on some other basis, and how the geographic scope of portability would impact different types of carriers and their billing systems. We also asked whether number portability could be provided nationwide without significant network modifications.

2. Positions of the Parties

39. *Performance criteria versus selection of architecture.* Commenting parties differ on whether the Commission should establish performance criteria or guidelines that any number portability method must meet, or require the implementation of one national portability method. Many parties, including several state regulatory agencies, cable interests, and LECs, favor establishment of broad guidelines and interoperability criteria

for implementing a long-term portability method. NYNEX maintains that this approach would encourage cooperative industry resolutions for a true number portability method and would properly account for legitimate state interests in the deployment of number portability. NYNEX further claims that guidelines would allow the Commission to ensure the implementation of compatible methods, with seamless call flows and service operation, without expending scarce resources by focusing on the detailed implementation of every method in each region of the country. The California Department of Consumer Affairs contends that the 1996 Act's pro-competitive policies mandate that the portability method adopted be flexible and allow for future innovation. GTE urges the Commission to determine the type of routing information to be employed, but leave selection of the triggering mechanism to the individual carriers. SBC Communications asserts that section 251(d)(1) only requires the Commission to outline principles for a long-term method within six months of enactment of the 1996 Act, not to adopt a specific method.

40. Conversely, some parties contend that requiring a single, national method would avoid the implementation of numerous inconsistent and inefficient approaches, and the need for carriers to adapt to different requirements in different states. Jones Intercable argues that allowing number portability to develop state-by-state would give the incumbent LECs the opportunity to delay development of local exchange competition. BellSouth and Nortel argue that a single long-term method is necessary to minimize the costs of implementation, operation, and maintenance; to protect billing systems against problems created by use of differing SS7 parameters; and to foster network integrity. PCIA claims that a state-regulated market would inhibit development of a nationwide wireless network. Arch/AirTouch Paging adds that deployment of different portability methods would adversely impact interstate telecommunications. Bell Atlantic and PCIA argue that a national method is more likely to conserve scarce numbering resources. Bell Atlantic further claims, however, that each individual carrier should be allowed the flexibility to utilize whatever architecture or technology within its own network best enables that carrier to implement whatever national method is selected. Moreover, some parties urge the Commission to select a particular method to be implemented nationwide,

while others advocate allowing the industry to select the specific method.

41. Commenting parties suggest numerous performance criteria with which any long-term number portability method must comply. These include: (1) The ability to support emergency services, *i.e.*, 911 and enhanced 911 (E911) services; (2) the ability to support existing network services and capabilities, (*e.g.*, operator and directory services, vertical and advanced services, custom local area signaling services (also known as "CLASS"), toll free and pay-per-call services, and intercept capabilities); (3) efficient use of numbering resources; (4) no initial change of telephone numbers; (5) no reliance on network facilities of, or services provided by, other service providers (*e.g.*, incumbent LECs) in order to route calls; (6) no degradation in service quality or network reliability (*e.g.*, no significant increase in call set-up time); (7) reliance on existing network infrastructure and functionalities to the extent possible; (8) equal application to both incumbents and new entrants (*i.e.*, carriers who receive ported numbers must also provide portability); (9) no proprietary interests or licensing fees; (10) the ability to migrate to location and service portability; and (11) no adverse impact in areas where portability has not been deployed.

42. *Call processing scenarios.* In the NPRM, we discussed three call processing scenarios. They were: (1) The terminating "access" provider (TAP) scenario, under which the database query is performed by the terminating access provider (usually the incumbent LEC, who recovers interstate access charges from interexchange carriers (IXCs) for terminating traffic under our existing access charge regime); (2) the originating service provider (OSP) scenario, under which the originating service provider performs the database query; and (3) the "N minus 1" ($N - 1$) scenario, under which the carrier immediately prior to the terminating service provider performs the database query or dip. In addition, ITN suggests a "first-switch-that-can" approach, under which the first switch that handles the call and has the capability to do the database dip performs the query.

43. Pacific Bell and Bell Atlantic recommend that carriers should be permitted to choose a call processing scenario to enable them to implement the QOR triggering mechanism in addition to LRN. These parties assert that QOR would eliminate unnecessary database queries, thereby decreasing the number of databases necessary to

provide number portability and the transmission capacity between switches and databases. In contrast, AT&T argues against allowing carriers to choose a call processing scenario, such as QOR, because doing so would delay deployment of a long-term number portability method and would result in significant network interoperability issues. MCI opposes implementation of QOR because it forces competitive LECs to rely on the incumbent LEC's network and results in inefficient routing. AT&T and MCI also argue against use of the RTP or QOR triggering mechanisms because they treat transferred and non-transferred numbers differently, and significantly increase post-dial delay and the potential for call blocking.

44. Most of the parties that favor the Commission's selection of a particular call processing scenario prefer the N-1 scenario because they believe it allows database queries to be made at the most efficient points in the process of routing telephone calls. In contrast, ITN states that use of the N-1 scenario may hinder the evolution from localized to national number portability environments. BellSouth contends that the Commission need not select a particular scenario because all four triggering mechanisms (OSP, TAP, N-1, and Look-Ahead) could exist simultaneously through engineering and business arrangements. Citizens Utilities and NCTA oppose the TAP scenario because it requires routing most calls to the incumbent LEC networks, thus denying terminating access charges to competitive providers.

45. *Rating and billing.* Several LECs, MCI, and MFS contend that any long-term method should preserve existing rating and billing systems to minimize costs and impact. Conversely, AT&T and Florida PSC argue that any long-term method should permit flexible rating and billing schemes. Pacific Bell, US West, and BellSouth also argue that the Commission must in this proceeding address billing problems, including issues relating to proper mileage, rating, calling cards, and billing format.

3. Discussion

46. *Performance criteria versus selection of architecture.* We conclude that establishing performance criteria that a LEC's number portability architecture must meet would better serve the public interest than choosing a particular technology or specific architecture. First, we believe that to date there appears to be sufficient momentum to deploy compatible methods, if not an identical method, nationwide. Every state that has selected a particular architecture for

implementation within its state boundaries has selected the same method, LRN, and numerous states are reportedly following suit. With the exception of some of the incumbent LECs, most parties that advocate selection of a particular method at this time are also supporting the LRN method. Under these circumstances, mandating the implementation of a particular number portability architecture, or mandating that the same architecture be deployed nationwide, appears unnecessary. Second, such a mandate might actually delay the implementation of number portability. We are reluctant, based on the record in this proceeding, to select one of the proposed long-term methods. According to a number of parties, none of the currently supported methods, including LRN, has been tested or described in sufficient detail to permit the Commission to select the particular architecture without further consultation with the industry. If, however, we were to direct an industry body to recommend a specific number portability architecture, it would likely delay the implementation of number portability that already is underway in several states, and would create significant uncertainty for those switch vendors currently modifying switch software to accommodate LRN. Third, dictating implementation of a particular method could foreclose the ability of carriers to improve on those methods already being deployed or to implement hybrid (but compatible) methods.

47. We believe that our establishment of criteria for long-term number portability methods, however, will ensure an appropriate level of national uniformity, while maintaining flexibility to accommodate innovation and improvement. The deployment of a uniform number portability architecture nationwide will be important to the efficient functioning of the public switched telephone network and will reduce the costs of implementing number portability nationwide by allowing switch vendors to spread the costs of development over more customers. Moreover, a uniform deployment will allow switch manufacturers to work toward a single standard, thus avoiding the situation where different manufacturers partition the market among different methods.

48. *Performance Criteria.* We thus adopt the following minimum criteria. Any long-term number portability method, including call processing scenarios or triggering, must:

(1) Support existing network services, features, and capabilities;

(2) Efficiently use numbering resources;

(3) Not require end users to change their telecommunications numbers;

(4) Not require telecommunications carriers to rely on databases, other network facilities, or services provided by other telecommunications carriers in order to route calls to the proper termination point;

(5) Not result in unreasonable degradation in service quality or network reliability when implemented;

(6) Not result in any degradation of service quality or network reliability when customers switch carriers;

(7) Not result in a carrier having a proprietary interest;

(8) Be able to accommodate location and service portability in the future; and

(9) Have no significant adverse impact outside the areas where number portability is deployed.

We discuss each of these performance criteria in turn below.

49. First, we require that any long-term method support existing network services, features, or capabilities, such as emergency services, CLASS features, operator and directory assistance services, and intercept capabilities. The 1996 Act requires that consumers be able to retain their numbers "without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another." Moreover, customers are not likely to switch carriers and retain their telephone numbers if they are required to forego services and features to which they have become accustomed. Thus, any long-term method that precludes the provision of existing services and features would place competing service providers at a competitive disadvantage.

50. The public interest also requires that service provider portability not impair the provision of network capabilities that are important to public safety, such as emergency services and intercept capabilities. In our proposal to ensure that PBXs and CMRS providers support enhanced 911 services, we reaffirmed that 911 services enable telephone users to receive fast response to emergency situations, and that broad availability of 911 and E911 services best promotes "safety of life and property through the use of wire and radio communication." In addition, the Communications Assistance for Law Enforcement Act requires telecommunications carriers generally to provide capabilities that enable secure, reliable, and non-intrusive law enforcement interception of call setup information and call content so that law enforcement agencies can intercept and monitor calls when necessary.

51. Second, we require that any long-term method efficiently use numbering resources. Telephone numbers are the means by which commercial and residential consumers gain access to, and reap the benefits of, the public switched telephone network. In recent years, the explosive growth of wireless services has caused an equally dramatic increase in the consumption of telephone numbers. Indeed, in January 1995, carriers began to deploy interchangeable NPA (INPA) codes because all NPA codes had been exhausted. The anticipated shortage of numbers has prompted several BOCs to propose the use of area code overlays. The increased use of overlays and area code splits has resulted in both industry and consumer inconvenience and confusion. The consumption rate of NANP resources is likely to accelerate with the entry of new wireline and wireless carriers. Thus, we conclude that deploying a long-term number portability method that rapidly depletes numbering resources would undermine the efforts of the industry, the states, and the Commission to ensure sufficient numbering resources.

52. Third, deployment of a long-term method should not require customers to make any telecommunications number change. The 1996 Act mandates that end users be able "to retain * * * existing telecommunications numbers * * * when switching from one telecommunications carrier to another." Requiring any number change would contravene this basic requirement. Congress noted that the ability to switch service providers is only meaningful if customers can retain their telephone numbers.

53. Fourth, we require that any long-term method ensure that carriers have the ability to route telephone calls and provide services to their customers independently from the networks of other carriers. Requiring carriers to rely on the networks of their competitors in order to route calls can have several undesirable effects. For example, dependence on the original service provider's network to provide services to a customer that has switched carriers contravenes the choice made by that customer to change service providers. In addition, such dependence creates the potential for call blocking by the original service provider and may make available to the original service provider proprietary customer information. Moreover, methods which first route the call through the original service provider's network in order to determine whether the call is to a ported number, and then perform a query only if the call is to be ported, would treat

ported numbers differently than non-ported numbers, resulting in ported calls taking longer to complete than unported calls. This differential in efficiency would disadvantage the carrier to whom the call was ported and impair that carrier's ability to compete effectively against the original service provider. Finally, dependence on another carrier's network also reduces the new service provider's ability to control the routing of telephone calls to its customers, thus inhibiting its ability to control the costs of such routing. For these reasons, a long-term number portability method should not require dependency on another carrier's network. We note that this criterion does not prevent individual carriers from determining among themselves how to process calls, including a method by which a carrier voluntarily agrees to use the original service provider's network.

54. We recognize that this criterion will effectively preclude carriers from implementing QOR. Those carriers that oppose QOR argue that it would treat ported and non-ported numbers differently, force reliance on the incumbent LEC's network, increase post-dial delay and the potential for call blocking, result in inefficient routing, create significant network interoperability issues, and delay deployment of a long-term number portability method. There is little evidence in the record to support the claim that allowing carriers to implement QOR would result in significant cost savings. Pacific Bell submitted summary figures indicating that it would save approximately \$14.2 million per year assuming that 20 percent of subscribers port their numbers if it implemented QOR. These savings, which represent less than 0.2 percent of Pacific Bell's total annual operating revenues, appear insignificant in relation to the potential economic and non-economic costs to competitors if QOR is used. According to AT&T, using QOR on Lucent switches is more cost effective only if less than 12 percent of subscribers have ported their numbers. Similarly, AT&T asserts that using QOR on Siemens switches is more cost effective only if less than 23 percent of subscribers have ported their numbers. In addition, because carriers using QOR may be required to send a QOR message to another carrier's switch to determine if a customer has transferred the number, the second carrier must have the ability to recognize and respond to the QOR message, which also may increase its costs. Based on the record before us, we

conclude that the competitive benefits of ensuring that calls are not routed through the original carrier's network outweigh any cost savings that QOR may bring in the immediate future.

55. Fifth, as a general matter, we require that the implementation of any long-term method not unreasonably degrade existing service quality or network reliability. Consumers, both business and residential, rely on the public switched telephone network for their livelihood, health and safety. Jeopardizing the reliability of the network would stifle business growth and economic development, and endanger individuals' personal safety and convenience. Consumers, both business and residential, have also come to expect a certain level of quality and convenience in using basic telecommunications services. We note that this Commission has repeatedly affirmed its commitment to maintaining service quality and network reliability. We, therefore, require that any long-term method of providing number portability not cause any unreasonable degradation to the network or the quality of existing services. This requirement extends to degradation that affects carriers operating, and end users obtaining services, outside as well as within the area of portability.

56. Sixth, once long-term number portability is implemented, we require that customers not experience any degradation of service quality or network reliability when they port their numbers to other carriers. We reiterate that the 1996 Act requires that consumers be able to retain their numbers "without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another." We interpret this mandate to mean, at a minimum, that when a customer switches carriers, that customer must not experience a greater dialing delay or call set up time, poorer transmission quality, or a loss of services (such as CLASS features) due to number portability compared to when the customer was with the original carrier.

57. Seventh, we require that no carrier have a proprietary interest in any long term method. A telecommunications carrier may not own rights to, or have a proprietary interest in, number portability technology. We believe that the requirement in the 1996 Act that the costs of number portability be borne on a competitively neutral basis precludes carrier ownership of the long-term method, and their collection of licensing or other fees for use of the method. In addition, it would be competitively unfair if a LEC providing portability

were to benefit directly, through licensing fees or a proprietary interest, from its competitors' use of portability. We note that one of the first criteria required by the Illinois task force in selecting a number portability method was that it be non-proprietary.

58. Eighth, we require that any long-term method be able to accommodate service and location portability in the future. Although we do not at this time mandate provision of service or location portability, we recognize that service and location portability have certain benefits, and we may take steps to implement them in the future if demand for these services develops. As our society becomes increasingly mobile, the importance that consumers attribute to the geographic identity of their telephone numbers may change. It is, therefore, in the public interest to take steps now to ensure that we do not foreclose realization of future economies of scope.

59. Finally, we require that any long-term method not have a significant adverse impact on carriers operating, and end users obtaining services, outside the area of number portability. We believe it is fundamentally unfair to impose any new or different obligations on carriers and customers that do not benefit from service provider portability. Indeed, we are adopting a phased approach to implementation so that number portability is available only in the most populous local markets where competition already has begun to develop or is likely to develop in the near term.

60. We do not believe it is necessary to require that a long-term method utilize existing network infrastructure and functionalities to the extent possible, as some commenting parties have suggested. Minimizing the costs of implementing a long-term method should be in the best interests of all the parties involved in such implementation. This conclusion is also consistent with our tentative conclusion that the carrier-specific costs that are not directly related to number portability must be borne by the individual carriers. Thus, existing local service providers have an incentive to minimize the extent of the necessary modifications and upgrades, as well as the costs of implementing number portability-specific software. Moreover, while new entrants may not need to modify existing networks, they must deploy and build networks with at least the same capabilities as those of the incumbents if they are to provide number portability.

61. We also decline to require carriers that receive ported numbers also to

provide portability because we believe the 1996 Act renders such a requirement unnecessary. Specifically, section 251(b)(2) imposes a duty to provide number portability on *all* LECs—incumbents as well as new entrants. In light of the fact that the 1996 Act applies this duty across all LECs, establishing a reciprocity performance criterion would be needlessly redundant.

62. *Call processing scenarios.* We decline to specify the carrier that must perform the database query in a database method, because we recognize that individual carriers may wish to determine among themselves how to process calls under alternative scenarios. We therefore leave to local exchange carriers the flexibility to choose and negotiate the scenario that best suits their networks and business plans, as long as they act consistently with the requirements established by this Order. While our criterion requiring carriers to be able to route calls and provide service independently from other carriers' networks may preclude unilateral use of the TAP scenario by a particular carrier, there may be instances where carriers agree to use the TAP scenario, or where the terminating provider is the only carrier capable of performing the database query. In those instances, our performance criterion would not preclude use of the TAP scenario.

63. *Rating and billing.* Finally, we decline to regulate the rating and billing of local wireline calls to end users in connection with a long-term number portability method. Traditionally, the billing and rating of local wireline calls—including the establishment of mileage standards, procedures for calling cards, and billing format—have been left to the purview of the states and the carriers themselves. While several parties have raised rating and billing questions with regard to number portability, we believe that such issues are more properly addressed by the states.

D. Mandate of Number Portability

1. Background

64. In the NPRM, we sought comment on the estimated time to design, build, and deploy a long-term service provider number portability system. We also requested that parties address what network and other modifications would be necessary to effect the transition to portability. The 1996 Act mandates that all LECs "provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission."

2. Position of the Parties

65. *Mandate Implementation By A Date Certain.* The competitive local exchange providers generally contend that the Commission should mandate the availability of number portability by a date certain. The incumbent LECs, however, caution the Commission not to act with undue haste by mandating the implementation of number portability by a date certain. Indeed, BellSouth claims that the 1996 Act's omission of a deadline for implementation indicates Congress's intent not to require a date certain at this time. It adds that the industry must first give careful attention to developing an implementation checklist that will ensure that the necessary tasks for the implementation are properly identified and performed. Instead of establishing a mandatory implementation date, some LECs contend that the Commission should direct an industry body, such as the INC, to determine the most appropriate schedule for deployment of a long-term solution. Other commenters argue that the implementation schedule should be determined by state regulatory bodies. Pacific Bell warns that a Commission-mandated solution at this time would be premature and cites a late proposal introduced by ITN as an illustration that the optimal solution may not yet have been introduced.

66. The wireless industry offers various implementation plans. For instance, PageNet urges the Commission to establish federal guidelines for number portability, and at a specified time in the future, to evaluate the industry's standards using the guidelines through a notice and comment proceeding. However, Omnipoint believes the Commission should act more aggressively in mandating service provider portability by a date certain.

67. *Time Estimates for Deployment.* Parties differ on their estimates for deployment. AT&T asserts that virtually all of the equipment vendors participating in the Illinois number portability task force indicate that they can provide most upgrades necessary to implement LRN by the second quarter of 1997. As noted above, Illinois, Georgia, and Colorado plan to deploy LRN in mid-1997. New York also expects to deploy LRN in mid-1997, though deployment in certain AT&T switches is expected to begin earlier. Michigan has ordered that implementation of long-term number portability in Michigan start at the same time that implementation begins in Illinois. BellSouth, however, estimates that three to five years are required to deploy a

number portability system that addresses all the necessary issues.

68. Parties also differ on the interpretation of "technically feasible" as that term is used in section 251(b)(2) of the 1996 Act. GTE argues that the term should not be equated with "technically possible" because cost and timing considerations cannot be separated from the concept of technical feasibility. GTE also maintains that no long-term solution proposed is currently technically feasible, since they all require further information on costs, operation, and reliability. Bell Atlantic contends that deploying a system that is technically feasible, but inefficient, may not be consistent with Congress's goal of a "rapid, efficient" telecommunications system. Bell Atlantic and BellSouth also claim that LRN is merely a call handling protocol, as opposed to a technical solution for number portability.

69. In contrast, Time Warner Holdings and Cox argue that "feasible" must be given common dictionary meaning—"capable of being done, executed or effected"—and does not mean "commercially available." Time Warner Holdings points out that equal access and 800 number portability proved to be technically feasible even when they were not commercially available. Time Warner Holdings claims, moreover, that LECs control commercial availability because vendors will not develop and manufacture portability methods until LECs demand them. Similarly, Sprint argues that technically feasible does not mean that every operational and regulatory issue must be resolved before any decision on national number portability can be made. Sprint further claims that Congress's use of the phrase "technically feasible" precludes any consideration of economic feasibility. AT&T and MCI argue that LRN is technically feasible, although they do not explicitly address the precise meaning of the statutory language.

70. *Phased Implementation.* Most parties addressing the implementation of number portability caution against a flash-cut approach (*i.e.*, deployment nationwide simultaneously). USTA argues that because section 251(b)(2) only requires provision of number portability, not deployment of the necessary software and network upgrades, LECs need only deploy portability upon a *bona fide* request. Most parties, however, recommend that service provider portability be deployed on a per-market basis within a period of time specified by the Commission. For example, Competitive Carriers proposes that service provider portability be implemented in the 100 largest MSAs within 24 months of this Order.

Similarly, Sprint proposes that the Commission adopt a phased approach requiring local service providers to deploy a long-term solution upon receipt of a *bona fide* request from a certified carrier: (1) In the top 100 MSAs by the end of fourth quarter 1997; (2) in the next 135 MSAs, within 3–4 years after this Order is issued; and (3) within any remaining areas, beginning in the fifth year after this Order is issued. Omnipoint maintains that service provider portability should be made available in the top 100 MSAs between October of 1997 and October of 1998, while GO Communications proposes implementation of service provider portability in the major metropolitan areas by early 1997. MFS supports a final cut-over in the 100 largest MSAs by October 1997, with an initial cut-over in the top 35 MSAs on March 31, 1997. It adds that, in order to deploy this capability as competition develops in specific markets, number portability should be implemented by LECs within 18 months of activation of an NXX code in the Local Exchange Routing Guide (LERG) and assignment to a competitor. AT&T has indicated that LRN deployment could begin in the third quarter of 1997 in one MSA in each of the seven BOC regions, followed by deployment in at least three additional MSAs per region during both fourth quarter 1997 and first quarter 1998. Once this initial phase is completed, AT&T suggests that the Commission could require LRN to be deployed in at least four additional MSAs during both second and third quarters 1998, or 105 MSAs total. AT&T's proposed plan would result in deployment of LRN software in a total of 7 MSAs in third quarter 1997, 21 additional MSAs in fourth quarter 1997, 21 additional MSAs in first quarter 1998, 28 additional MSAs in second quarter 1998, and 28 additional MSAs in third quarter 1998. AT&T further asserts that its proposed schedule would require major switch manufacturers to update switch software at a rate of 53 switches per week, and that one major switch manufacturer has claimed that it alone can update 50 switches per week. MCI urges that number portability be deployed in the top 100 MSAs, by population, over a 10 month period beginning no later than June 30, 1997. After implementation is complete in the initial 100 MSAs, MCI recommends that the remaining MSAs be converted based on written requests from carriers filed with the Commission, which may order implementation in a particular MSA to be completed within six months of the request. MCI and Time Warner Holdings

also support the notion of requiring number portability implementation within six months of a request of a telecommunications carrier. Finally, Ameritech argues it is premature to set a deployment schedule for LRN because there are several operational issues yet to be resolved. It further argues that schedules proposed by various carriers are too aggressive and exceed the resources of the industry.

71. Switch vendors assert that LRN software will be generally available for service providers to deploy in 1997. Lucent Technologies plans general availability of LRN software for March 21, 1997, for its 1A ESS switch; March 31, 1997, for its 5ESS–2000 switch; and May 1, 1997, for its 4ESS switch. Lucent asserts that, after the new software becomes generally available, it will be able to support up to 50 software release updates per week for the 5ESS and 1A ESS switches for North America (each release update upgrades the software for one switch). Nortel states that its LRN software will be available in the second quarter of 1997 for its DMS–100, DMS–200, and DMS–500 switches, and will be available in the third quarter of 1997 for its DMS–10 and TOPS switches. Siemens Stromberg-Carlson asserts that its LRN software will be available for testing on its EWSD switch in its Release 14.E generic in October 1996, and will be generally available in the first quarter of 1997. Siemens further claims that upgrades to EWSD switches deployed within the top 100 MSAs can be completed within five months of the date of general availability. Ericsson asserts that its LRN software for Ericsson SCPs will be generally available in the second quarter of 1997, and that its LRN software for Ericsson SSPs will be generally available in the third quarter of 1997. Ericsson expects that 6–7 switch upgrades can be accomplished each week, with each upgrade taking 3–4 days.

72. The Illinois Commerce Commission argues that a phased approach—implementing number portability in those areas where local competition is developing—may be more cost-effective and more feasible technically than a nationwide uniform deadline. Similarly, US West contends that a nationwide uniform deadline for service provider portability is neither practical nor necessary due to differing levels of competition. Sprint asserts that a phased implementation will accommodate the concerns of the small LECs, arguing that a phased approach best balances the need for rapid deployment with the capital constraints facing individual carriers. Nextel asserts that a phased approach is more efficient

because it results in the introduction of number portability where the demand for service provider portability is greatest. Bell Atlantic and US West contend that state agencies should determine when and where service provider portability should be introduced within their respective jurisdictions. Alternatively, US West suggests that the Commission could use the same approach to implementing service provider portability that it adopted in implementing equal access for independent LECs.

73. *Rural and Small LEC Exemption.* In comments filed prior to passage of the 1996 Act, GVNW, TDS Telecom, NECA, and OPASTCO argue that, if the Commission mandates the implementation of number portability, it should exempt small and rural LECs from such a mandate. GNVW, NECA, and NTCA claim that the demand for service provider portability is significantly less in areas served by rural and small LECs because local exchange competition is not likely to develop there soon, if at all.

3. Discussion

74. Section 251(b) requires that all local exchange carriers, as defined by section 153(26), "provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission." We believe that requiring implementation of long-term number portability by a date certain is consistent with the 1996 Act's requirement that LECs provide number portability as soon as they can do so and will advance the 1996 Act's goal of encouraging competition in the local exchange market. The record indicates that at least one long-term method will be available for deployment in mid-1997.

75. We decline the suggestion of some parties that we direct an industry body to determine an appropriate implementation plan. The INC has been analyzing the issues surrounding number portability for over two years. Delegating responsibility for number portability implementation to an industry group such as the INC would unnecessarily delay implementation of number portability. Similarly, we reject BellSouth's arguments in favor of delaying implementation for three to five years. We believe such a delay is inconsistent with the 1996 Act's requirement that LECs make number portability available when doing so is technically feasible, as well as with the pro-competitive goals of the 1996 Act, and would not serve the public interest.

76. Carriers filing comments in this proceeding have suggested various

deployment schedules, with most suggesting deployment within two years of a Commission order or sooner. According to current schedules in Illinois, Georgia, Colorado, Maryland, and New York, AT&T's LRN method is scheduled for deployment (most likely excluding necessary field testing) beginning in mid-1997. Thus, the record indicates that one method for providing number portability will be available in mid-1997.

77. Pursuant to our statutory authority under the 1996 Act, we require local exchange carriers operating in the 100 largest MSAs to offer long-term service provider portability commencing on October 1, 1997, and concluding by December 31, 1998, according to the deployment schedule set forth in Appendix F of the Report and Order. We require deployment in one MSA in each of the seven BOC regions by the end of fourth quarter 1997, 16 additional MSAs by the end of first quarter 1998, 22 additional MSAs by the end of second quarter 1998, 25 additional MSAs by the end of third quarter 1998, and 30 additional MSAs by the end of fourth quarter 1998. As a practical matter, this obligation requires LECs to provide number portability to other telecommunications carriers providing local exchange or exchange access service within the same MSA. This schedule is consistent with switch vendor estimates that software for at least one long-term number portability method will be generally available for deployment by carriers around mid-1997, and with the schedule proposed by AT&T. One major switch manufacturer has claimed that it alone can support the deployment of number portability software in 50 switches per week. We conclude that a schedule consistent with AT&T's proposed schedule, which would require all of the major switch manufacturers collectively to update switch software at a total rate of 53 switches per week, appears workable.

78. We note that, in establishing this schedule, we have relied upon representations of switch vendors concerning the dates by which the necessary switching software will be generally available. As a result, our deployment schedule depends directly upon the accuracy of those estimates and the absence of any significant technical problems in deployment. We delegate authority to the Chief, Common Carrier Bureau, to monitor the progress of local exchange carriers implementing number portability, and to direct such carriers to take any actions necessary to ensure compliance with this deployment schedule. We expect that

the industry will work together to resolve any outstanding issues, technical or otherwise, which are involved with providing long-term number portability in accordance with our requirements and deployment schedule. We note that while we prescribe the time constraints within which LECs must implement number portability, we strongly encourage carriers to provide such portability before the Commission-imposed deadlines.

79. In addition, we direct the carriers that are members of the Illinois Local Number Portability Workshop to conduct a field test of LRN or another technically feasible long-term number portability method that comports with our performance criteria concluding no later than August 31, 1997. We select the Chicago area for the field test because the record indicates that the Illinois workshop was responsible for drafting requirements for switching software currently being developed by switch manufacturers. Because of the significant work which has been done on behalf of the Illinois workshop, we believe the Chicago area is the best site within which to conduct a field test. The field test should encompass both network capability and billing and ordering systems, as well as maintenance arrangements. We delegate authority to the Chief, Common Carrier Bureau, to monitor developments during the field test. We further direct that the carriers participating in the test jointly file with the Bureau a report of their findings within 30 days following completion of the test. While we do not routinely order field testing of telecommunications technologies as part of rulemaking proceedings, we have a significant interest in ensuring the integrity of the public switched network as number portability is deployed nationwide. We believe a field test will help to identify technical problems in advance of widespread deployment, thereby safeguarding the network.

80. After December 31, 1998, each LEC must make long-term number portability available in smaller MSAs within six months after a specific request by another telecommunications carrier in the areas in which the requesting carrier is operating or plans to operate. Telecommunications carriers may file requests for number portability beginning January 1, 1999. Such requests should specifically request long-term number portability, identify the discrete geographic area covered by the request, and provide a tentative date six or more months in the future when the carrier expects to need number

portability in order to port prospective customers.

81. We believe that this deployment schedule is consistent with the requirements of sections 251(b)(2) and (d), which give the Commission responsibility for establishing regulations regarding the provision of number portability to the extent technically feasible. As the record indicates, long-term number portability requires the use of one or more databases. Such databases have yet to be deployed. As indicated above, the methods for providing long-term number portability that would satisfy our criteria require the development of new switching software that is not currently available, but is under development. The record indicates, however, that at least one method of long-term number portability will be technically feasible by mid-1997. Requiring number portability to be fully operational in the largest 100 MSAs by December 31, 1998, would allow a reasonable amount of time to install the appropriate generic and application software in the relevant switches. Moreover, such a phased deployment is preferable to implementing nationwide number portability simultaneously in all markets (or implementing this service in multiple large MSAs at the same time) because a phased deployment would be less likely to impose a significant burden on those carriers serving multiple regions of the country. Specifically, our phased approach spreads the implementation over 15 months, thus easing the burden on carriers serving multiple regions by limiting the number of MSAs in which implementation is required during a particular calendar quarter. In addition, the burden on such carriers should be less than that upon carriers in smaller markets because the latter may be required to undertake hardware upgrades whereas larger carriers may already have upgraded their switches. Our phased approach would also avoid the potential strain on vendors caused by implementation in all the largest 100 MSAs on or around a single date, as well as help to safeguard the integrity of the public switched telephone network.

82. In addition, we believe that our phased implementation of long-term number portability is in the public interest and supported by the record. Our phased deployment schedule takes in account the differing levels of local exchange competition that are likely to emerge in the different geographic areas throughout the country. Thus, our deployment schedule is designed to ensure that number portability will be made available in those regions where

competing service providers are likely to offer alternative services. We believe that competitive local service providers are likely to be providing service in the major metropolitan areas soon. In those areas beyond the 100 largest MSAs, however, the actual pace of competitive entry into local markets should determine the need for service provider portability. We therefore agree with those parties that argue that, in markets outside of the 100 largest MSAs, long-term number portability should be deployed within six months of a specific request from another telecommunications provider. We believe a six-month interval is appropriate given the more significant network upgrades that may be necessary for carriers operating in these smaller areas.

83. We note that the 1996 Act exempts rural telephone companies from the "duty to negotiate * * * the particular terms and conditions of agreements to fulfill the (interconnection) duties" created by the 1996 Act, including the provision of number portability, and that carriers satisfying the statutory criteria contained in section 251(f) may be exempt from the obligations to provide number portability as set forth herein. In addition, section 251(f)(2) permits a LEC with fewer than two percent of the country's total installed subscriber lines to petition a state commission for suspension or modification of the requirements of section 251. In our recent notice of proposed rulemaking implementing sections 251 and 252 of the Communications Act, we address the application of this statutory exemption, and we believe that specific application of such provisions is best addressed in that proceeding. We intend to establish regulations to implement these provisions by early August 1996, consistent with the requirements of section 251(d).

84. In our Second Further Notice of Proposed Rulemaking on Billed Party Preference (BPP), we stated that the Commission would further consider the feasibility of implementing BPP in the upcoming proceeding to implement the 1996 Act's local number portability requirements in section 251(b)(2). We recognize that our deployment schedule may have implications for the provision of BPP, the ability of a customer to designate in advance which Operator Service Provider (OSP) should be billed when that customer makes a call from a pay telephone. This capability may involve querying a database, similar to the proposed long-term number portability methods. In the *BPP Second Further Notice* (61 FR 30581 (June 17,

1996)), we noted that the record indicated that the cost of BPP would likely be substantial, and we sought comment on the costs of requiring OSPs to disclose their rates for 0+ calls in a variety of circumstances. In that NPRM, we reaffirmed our belief that BPP would generate significant benefits for consumers, but stated that, at this time, unless local exchange providers were required to install the facilities needed to perform database queries for number portability purposes, the incremental cost to query the database for the customer's preferred OSP would outweigh the potential incremental benefits that BPP would provide. While we continue to recognize the benefits that could be achieved through such an approach, we note that creating the capability for all LECs to query OSP databases would require a uniform deadline to nationwide number portability which, for the reasons discussed above, is not in the public interest. Nonetheless, as indicated by our deployment schedule, LECs in the 100 largest MSAs will be required to install the capability to query number portability databases by December 31, 1998, which could then potentially be utilized for BPP in those markets.

85. Finally, we delegate to the Chief, Common Carrier Bureau, the authority to waive or stay any of the dates in the implementation schedule, as the Chief determines is necessary to ensure the efficient development of number portability, for a period not to exceed 9 months (*i.e.*, no later than September 30, 1999). In the event a carrier is unable to meet our deadlines for implementing a long-term number portability method, it may file with the Commission, at least 60 days in advance of the deadline, a petition to extend the time by which implementation in its network will be completed. We emphasize, however, that carriers are expected to meet the prescribed deadlines, and a carrier seeking relief must present extraordinary circumstances beyond its control in order to obtain an extension of time. A carrier seeking such relief must demonstrate through substantial, credible evidence the basis for its contention that it is unable to comply with our deployment schedule. Such requests must set forth: (1) The facts that demonstrate why the carrier is unable to meet our deployment schedule; (2) a detailed explanation of the activities that the carrier has undertaken to meet the implementation schedule prior to requesting an extension of time; (3) an identification of the particular switches for which the extension is requested; (4) the time within which the carrier will

complete deployment in the affected switches; and (5) a proposed schedule with milestones for meeting the deployment date.

E. Database Architecture and Administration

1. Background

86. In the NPRM, we sought comment on the type of database architecture that would best serve the public interest and the technical feasibility of deploying a single national database or a series of regionally distributed databases. We also sought comment on the type of information that should be contained within such database(s) and who should have access to such database(s). Finally, we sought comment on administration of the number portability database(s), *i.e.*, who should administer and maintain the database(s), how should they be funded, how should the administrator(s) be selected, and what responsibilities should the administrator(s) be given.

2. Position of the Parties

Many parties assert that any long-term number portability solution will require the use of one or more databases. Jones Intercable states that use of a database solution: (1) Makes numbering information available to numerous competing carriers; (2) provides the platform to offer other types of number portability; and (3) permits the deployment of other advanced services. ACTA, AT&T, and Citizens Utilities assert that the database architecture of a long-term solution should resemble the architecture used for the toll free database, but with databases distributed on a regional basis. US Intelco and MCI note that multiple, regional databases, rather than one national database, will be necessary to process the data for all portable geographic numbers. Only Scherers Communications claims that a single national database will be able to accommodate all portable numbers, geographic and non-geographic, and will ensure consistency and cost efficiency.

88. AT&T and several BOCs support the ability of individual carriers to download information from the regional databases to routing systems associated with their own networks, *i.e.*, downstream databases. Several other parties add that access to the regional databases must be open, and carriers, individually or collectively, must be permitted to develop routing databases that obtain information from the regional databases. ITN contends that an architecture of regionally-deployed SCPs which correspond to blocks of

NPA-NXXs would give carriers the option of maintaining their own customer records or having a third party provider perform such functions. It adds that such openness in data management will help ensure number portability to all service providers, including providers of service to end users and various other intelligent network service providers.

89. Almost all parties, incumbent LECs and new entrants, support administration of the database(s) by a neutral third party. MFS adds that the operator of a number portability database must not be able to gain a competitive advantage by manipulating the data or controlling access to the database. ACTA urges that the database administrator be a non-profit organization selected through a competitive bidding process that excludes LECs and IXC's, with responsibilities established by the North American Numbering Plan Administrator (NANPA).

90. Competitive Carriers assert that the database(s) should include only service provider portability-specific information, and that the carriers using the database should be responsible for the integrity of these data. Teleport claims that an industry group should determine the contents of any distributed databases, subject to the Commission's criteria. The Texas Advisory Commission also asserts that the database(s) should easily integrate with 911 databases.

3. Discussion

91. Section 251(b) directs the Commission to establish requirements governing the provision of number portability without specifically addressing the appropriate database architecture necessary for long-term number portability. We find that an architecture that uses regionally-deployed databases best serves the public interest and is supported by the record. The deployment of multiple regional databases will facilitate the ability of LECs to provide number portability by reducing the distance that such carriers will have to transmit carrier routing information. This, in turn, should reduce the costs of routing telephone calls based on such data. Moreover, a nationwide system of regional databases would relieve individual carriers of the burden of deploying multiple number portability databases over various geographic areas. A regionally-deployed database system will ensure that carriers have the number portability routing information necessary to route telephone calls between carriers' networks, and will

also promote uniformity in the provision of such number portability data. We agree with those parties arguing that one national number portability database is not feasible. The potential amount of information that such a database would be required to process would, according to parties in this proceeding, likely become overwhelming as number portability is deployed nationwide.

92. We also conclude that it is in the public interest for the number portability databases to be administered by one or more neutral third parties. Both the record and the Commission's recent decision to reorganize the administration of telephone numbers under the NANP support neutral third party administration of these facilities. We also note that section 251(e)(1) requires the Commission to "create or designate one or more impartial entities to administer telecommunications numbering and to make such numbers available on an equitable basis." Neutral third party administration of the databases containing carrier routing information will facilitate entry into the communications marketplace by making numbering resources available to new service providers on an efficient basis. It will also facilitate the ability of local service providers to transfer new customers by ensuring open and efficient access for purposes of updating customer records. As we stated above, the ability to transfer customers from one carrier to another, which includes access to the data necessary to perform that transfer, is important to entities that wish to compete in the local telecommunications market. Neutral third party administration of the carrier routing information also ensures the equal treatment of all carriers and avoids any appearance of impropriety or anti-competitive conduct. Such administration facilitates consumers' access to the public switched network by preventing any one carrier from interfering with interconnection to the database(s) or the processing of routing and customer information. Neutral third party administration would thus ensure consistency of the data and interoperability of number portability facilities, thereby minimizing any anti-competitive impacts.

93. We hereby direct the NANC to select as a local number portability administrator(s) (LNPA(s)) one or more independent, non-governmental entities that are not aligned with any particular telecommunications industry segment within seven months of the initial meeting of the NANC. Selection of the LNPA(s) falls within the duties we established for the NANC in the

Numbering Plan Order (60 FR 38737 (July 28, 1995)) and the NANC Charter. The NANC charter describes the scope of the NANC's activities:

The purpose of the (NANC) is to advise the (Commission) and to make recommendations, reached through consensus, that foster efficient and impartial number administration. The (NANC) will develop policy on numbering issues, initially resolve disputes, and select and provide guidance to the North American Numbering Plan Administrator.

The fundamental purpose of the NANC is to act as an oversight committee with the technical and operational expertise to advise the Commission on numbering issues. The Commission has already directed the NANC to select a NANPA. We believe the designation of a centralized entity to select and oversee the LNPA(s) is preferable to ensure consistency and to provide a national perspective on number portability issues, as well as to reduce the costs of implementing a national number portability plan.

94. We believe that the NANC is especially well-situated to handle matters relating to local number portability administration because of its similarity to the administration of central office codes. Both functions rely heavily on the use of databases, and both involve administration of NANP resources, only at different levels. Administration of number portability data is essentially the administration of telephone numbers (as opposed to NXX codes) between different carriers.

95. We believe that the NANC should determine, in the first instance, whether one or multiple administrators should be selected, whether LNPA(s) can be the same entity selected to be the NANPA, how the LNPA(s) should be selected, the specific duties of the LNPA(s), and the geographic coverage of the regional databases. Once the NANC has selected the LNPA(s) and determined the locations of the regional databases, it must report its decisions to the Commission. The NANC should also determine the technical interoperability and operational standards, the user interface between telecommunications carriers and the LNPA(s), and the network interface between the SMS and the downstream databases. Finally, the NANC should develop the technical specifications for the regional databases, *e.g.*, whether a regional database should consist of a service management system (SMS) or an SMS/SCP pair. In reaching its decisions, the NANC should consider the most cost-effective way of accomplishing number portability. We note that it will be essential for the NANPA to keep track of information

regarding the porting of numbers between and among carriers. We thus believe it necessary for the NANC to set guidelines and standards by which the NANPA and LNPA(s) share numbering information so that both entities can efficiently and effectively administer the assignment of the numbering resource. For example, the NANC might require that the databases easily integrate with 911 databases.

96. We recognize that authorizing the NANC to select a LNPA(s) may have an impact on Illinois's April 1996 selection of Lockheed-Martin as the administrator of the Illinois SMS, as well as the Maryland and Colorado task forces' plans to release their RFPs for their SMS administrators in the second quarter of 1996. Therefore, in light of these and other ongoing efforts by state commissions, we conclude that any state that prefers to develop its own statewide database rather than participate in a regionally-deployed database may opt out of its designated regional database and implement a state-specific database. We direct the Chief, Common Carrier Bureau, to issue a Public Notice that identifies the administrator selected by the NANC and the proposed locations of the regional databases. A state will have 60 days from the release date of the Public Notice to notify the Common Carrier Bureau and NANC that the state does not wish to participate in the regional database system for number portability. Carriers may challenge a state's decision to opt out of the regional database system by filing a petition with the Commission. Relief will be granted if the petitioner can demonstrate that the state decision to opt out would significantly delay deployment of permanent number portability or result in excessive costs to carriers. We note that state databases would have to meet the national requirements and operational standards recommended by the NANC and adopted by this Commission. In addition, such state databases must be technically compatible with the regional system of databases and must not interfere with the scheduled implementation of the regional databases.

97. We further note that any administrator selected by a state prior to the release of this Order that wishes to bid for administration of one of the regional databases must submit a new proposal in accordance with the guidelines established by the NANC. We emphasize that nothing in this section affects any other action that the Commission may take regarding the delegation and transfer of functions related to number administration. We

delegate authority to the Chief, Common Carrier Bureau, to monitor the progress of the NANC in selecting the LNPA(s) and in developing and implementing the database architecture described above.

98. We believe that telecommunications carriers should have open access to all regional databases. Just as we conclude all carriers must have equal access to any long-term number portability method, and that no portion of a long-term number portability method should be proprietary to any carrier, we further conclude that all carriers must have equal and open access to all regionally-deployed databases containing number portability-specific data. Allowing particular carriers access to the databases over others would be inherently discriminatory and anti-competitive. All carriers providing number portability need to have access to all relevant information to be able to provide customers with this important capability. We thus conclude that the 1996 Act, in addition to general rules of equity and competitive neutrality, requires equal and open access to all regionally-deployed databases for all carriers wishing to interconnect.

99. We believe that, at this time, the information contained in the number portability regional databases should be limited to the information necessary to route telephone calls to the appropriate service providers. The NANC should determine the specific information necessary to provide number portability. To include, for example, the information necessary to provide E911 services or proprietary customer-specific information would complicate the functions of the number portability databases and impose requirements that may have varied impacts on different localities. For instance, because different localities have adopted different emergency response systems, the regional databases would have to be configured in such a fashion as to provision the appropriate emergency information to each locality's particular system. Similarly, special systems would need to be developed to restrict access to proprietary customer-specific information. In either instance, the necessary programming to add such capabilities to the regional databases would complicate the functionality of those databases.

100. Because we require open access to the regional databases, it would be inequitable to require carriers to disseminate, by means of those databases, proprietary or customer-specific information. We therefore contemplate that the regional

deployment of databases will permit individual carriers to own and operate their own downstream databases. These carrier-specific databases will allow individual carriers to provide number portability in conjunction with other functions and services. To the extent that individual carriers wish to mix information, proprietary or otherwise, necessary to provide other services or functions with the number portability data, they are free to do so at their downstream databases. We reiterate, however, that a carrier may not withhold any information necessary to provide number portability on the grounds that such data are combined with other information in its downstream database; it must furnish all information necessary to provide number portability to the regional databases as well as to its own downstream database.

101. Carriers that choose not to access directly the regional databases or deploy their own downstream databases can seek access to the carrier-specific databases deployed by other carriers. The provision of access to network elements and facilities of incumbent LECs is addressed in our proceeding implementing section 251 of the Communications Act. We believe the issue of access to incumbent LECs' carrier-specific databases by other carriers for purposes of number portability is best addressed in that proceeding. Parties may negotiate third-party access to non-incumbent LECs' carrier-specific databases on an individual basis.

102. In the *Numbering Plan Order*, we concluded that the Commission should invoke its statutory authority to recover its costs for regulating numbering activities, including costs incurred from the establishment, oversight of, and participation in the NANC. The Commission is required to institute a rulemaking proceeding annually to adjust the schedule of regulatory fees to reflect its performance of activities relating to enforcement, policy and rulemaking, user information services, and international activities, pursuant to the relevant appropriations legislation. Therefore, we intend to include the additional costs incurred by the Commission related to NANC and regulating number portability in the fiscal 1997 adjustment of the schedule of regulatory fees. In that proceeding, we will assess the nature and amount of the additional burdens imposed by the activities authorized here, and all interested parties will be afforded an opportunity to comment.

F. Currently Available Number Portability Measures

1. Background

103. In the NPRM, we discussed certain currently available number portability measures that LECs can use to provide service provider number portability. We focused on RCF and DID and acknowledged that the use of either method for number portability has significant limitations. We sought comment on the costs of implementing these measures, and on their limitations and disadvantages. We also requested that parties discuss whether these currently available measures can be improved so that they are workable, long-term solutions, and if so, at what cost. Finally, we sought comment on how the costs of providing service provider portability using RCF and DID should be recovered.

2. Implementation of Currently Available Number Portability Measures

a. Positions of the Parties

104. Commenting parties, with the exception of several of the incumbent LECs, generally agree that the technical limitations described in the NPRM render the interim measures unacceptable in the long term. Indeed, many parties point out additional disadvantages of RCF and DID, such as: Longer call set-up times, incumbent access to competitors' proprietary information, complicated resolution of customer complaints, increased potential for call blocking, and substantial costs to new entrants. Bell Atlantic counters that calls forwarded by RCF in its network can support CLASS features if the co-carrier has modern digital switching equipment and common channel signalling, and it adds that there is no limit on the number of calls RCF can handle simultaneously.

105. Many of the new entrants, nevertheless, urge the Commission to require incumbent LECs to provide interim measures until a long-term solution is implemented. These carriers generally caution that use of interim solutions should not delay implementation of a permanent solution. While acknowledging that RCF and DID are already technically feasible and generally available, several LECs argue that the Commission need not take action on interim measures. They generally focus, instead, on phasing in a long-term solution.

106. AT&T and MCI initially argued for using a medium-term database solution, namely, the Carrier Portability Code (CPC) method, because of its

advantages over RCF or DID, but subsequently favored implementing LRN as soon as possible. NYNEX and SBC Communications claim that adopting CPC as an interim solution would result in wasted and duplicative efforts. They note that CPC fails to support certain services, such as ISDN calls, pay phone calls, and CLASS features when customers place a call into an NXX from which a number has been transferred to a different service provider, and that CPC may prevent an operator from identifying the switch serving a "ported" number, thereby interfering with busy line verification of that line.

107. Potential new entrants into the local exchange market generally contend that requiring interim number portability is consistent with the 1996 Act. Indeed, MFS maintains that the 1996 Act requires immediate implementation of interim measures until long-term portability is implemented. Teleport notes that the Bell Operating Companies, at least, are required to provide interim number portability as a condition of entry into the interLATA market. MCI agrees that interim measures should be made available until long-term portability is implemented, and argues that section 4(i) of the Communications Act authorizes the Commission to perform any acts "necessary and proper" to execute section 251(b)(2), and that such authority is pre-existing and remains in effect. ALTS contends that Congress clearly contemplated that the Commission should require interim measures until long-term portability is available because otherwise BOCs could satisfy the competitive checklist of section 271(c)(2)(B)(xi) for entry in interLATA services without providing any form of number portability. AT&T argues that interim arrangements are incapable of preserving the functionality for long-term number portability required by the 1996 Act, but should be provided until long-term number portability can be deployed.

108. US West, in contrast, asserts that the Commission's jurisdiction over interim measures is unclear because sections 153(30) and 251(b)(2), giving the Commission jurisdiction over number portability, appear to include only permanent portability. Cox and NCTA claim that the interim measures do not satisfy the "without impairment of quality, reliability, or convenience" standard in the definition of number portability in 47 U.S.C. section 153(30).

109. Several of the cable interests argue that, although section 271(c)(2)(B)(xi) allows the BOCs initially to satisfy the competitive

checklist for entry into interLATA services by providing only interim measures, the BOCs are also required to provide long-term portability to fulfill the checklist requirements. Moreover, Cox and Time Warner Holdings warn that the Commission will lose its leverage to encourage prompt implementation of long-term portability once the BOCs are permitted to provide in-region interLATA services pursuant to section 271. NCTA asserts that, since section 271(c)(2)(B)(xi) distinguishes between "interim" measures and "regulations pursuant to section 251 to require number portability," the portability required by section 251 is long-term number portability. CCTA urges the Commission to review and require BOC progress toward deployment of a long-term method when BOCs apply for in-region interLATA market entry, and to deny a BOC application if the BOC tries to delay implementation of long-term portability. Cox goes further and argues that, after the Commission adopts number portability rules, BOCs must implement long-term service provider portability, not just interim measures, before they can obtain interexchange and manufacturing relief under section 271 because interim measures do not satisfy section 251. In response, Ameritech contends that provision of interim measures, and later compliance with the Commission's portability rules, satisfies the BOC checklist and notes that section 271(d)(4) directs the Commission not to limit or extend the checklist terms.

b. Discussion

110. The 1996 Act requires that carriers "provide, to the extent technically feasible, number portability in accordance with the requirements prescribed by the Commission." Number portability is defined in the 1996 Act as "the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another." The record indicates that currently technically feasible methods of providing number portability, such as RCF and DID, may impair to some degree either the quality, reliability, or convenience of telecommunications services when customers switch between carriers. Because of these drawbacks, some may argue that the use of RCF and DID methods for providing number portability would not satisfy the requirements of sections 3(30) and 251(b)(2). We disagree. Section 251(b)(2)

specifically requires carriers to provide number portability, as defined in section 3(30), "to the extent technically feasible." Thus, because currently RCF and DID are the only methods technically feasible, we believe that use of these methods, in fact, comports with the requirements of the statute. We believe that the 1996 Act contemplates a dynamic, not static, definition of technically feasible number portability methods. Under this view, LECs are required to offer number portability through RCF, DID, and other comparable methods because they are the only methods that currently are technically feasible. LECs are required by this Order to begin the deployment of a long-term number portability solution by October 1, 1997, because, based on the evidence of record, such methods will be technically feasible by that date. We believe that this conclusion is consistent with Congress's goal of developing a national number portability framework, as well as the general purpose of the Act to "promote competition * * * in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new technologies."

111. This interpretation finds further support in section 271(c)(2)(B)(xi), which sets forth the competitive checklist for BOC entry into in-region interLATA services. That section requires the BOCs wishing to enter the in-region interLATA market: (1) To provide interim number portability through RCF, DID, and other comparable arrangements "until the date by which the Commission issues regulations pursuant to section 251 to require number portability," and then (2) to comply with the Commission's regulations. There will necessarily be a significant time period between the adoption date of these rules and the availability of long-term number portability measures. Therefore, were the Commission to promulgate rules providing only for the provision of long-term number portability, during this time period the BOCs could satisfy the competitive checklist without providing any form of number portability. This could be true even if they had been providing interim number portability pursuant to the checklist prior to the effective date of the Commission's regulations. We do not believe that Congress could have intended this result. We, therefore, agree with MFS, ALTS, MCI, and AT&T that Congress intended that currently available number portability measures be provided until a long-term number

portability method is technically feasible and available.

112. We conclude that we had authority to require the provision of currently available methods of service provider portability prior to passage of the 1996 Act. In the NPRM, we tentatively concluded that sections 1 and 202 of the Communications Act establish a federal interest in the provision of number portability. Specifically, we concluded in the NPRM that such interest arises from: (1) Our obligation to promote an efficient and fair telecommunications system; (2) the inability to separate the impact of number portability between intrastate and interstate telecommunications; (3) the potential adverse impact deploying different number portability solutions across the country would have on the provision of interstate telecommunications services; and (4) the impact number portability could have on the use of the numbering resource, that is, ensuring that the use of numbers is efficient and does not contribute to area code exhaust. We now affirm these tentative conclusions and conclude that we have jurisdiction to require the provision of currently available number portability methods, independent of the statutory changes adopted in the 1996 Act.

113. There are also substantial policy reasons that support our requiring LECs to provide currently available number portability measures. The ability of customers to keep their telephone numbers when changing carriers, even with some impairment in call set-up time or vertical service offerings, is critical to opening the local marketplace to competition. By facilitating entry of new carriers into the local market, currently available number portability measures will increase competition in local markets which will result in lower prices and higher service quality for telecommunications services consistent with the goals of the 1996 Act. Several parties to this proceeding likewise advocate that such measures are necessary for the development of effective local exchange competition.

114. We note that sections 251(b)(2) and 251(d) give to the Commission the authority to prescribe requirements for the provision of number portability. Pursuant to that authority, we mandate the provision of currently available number portability measures as soon as reasonably possible upon receipt of a specific request from another telecommunications carrier, including from wireless service providers. By conditioning the obligation to provide currently available number portability measures upon a specific request,

number portability will be offered only in those areas where a competing local exchange carrier seeks to provide service. Thus, it avoids the imposition of number portability implementation costs on carriers (and end users) in areas where no competitor is operating.

115. We agree with the many parties who claim that the technical limitations described in the NPRM that handicap all currently available measures for providing number portability render them unacceptable as long-term solutions. Despite Bell Atlantic's claims to the contrary for its own network, the record indicates that currently available number portability measures are inferior to LRN portability or any other method that meets our performance criteria. The 1996 Act, and particularly the BOC checklist in section 271, clearly contemplates that these methods should serve as only temporary measures until long-term number portability is implemented. As indicated above, the 1996 Act requires that number portability be provided, to the extent technically feasible, without impairment of quality, reliability, and convenience. Therefore, when a number portability method that better satisfies the requirements of section 251(b)(2) than currently available measures becomes technically feasible, LECs must provide number portability by means of such method. In addition, we find that the existing measures fail to satisfy our criteria set forth for any long-term solution; for example, they depend on the original service provider's network, may result in the degradation of service quality, and are wasteful of the numbering resource. For these reasons, we do not believe that long-term use of the currently available measures is in the public interest. We emphasize that we encourage all LECs to implement a long-term solution that meets our technical standards as soon as possible. We also note that BOCs must comply with the requirements set forth in this Order, including the requirement to provide currently available measures, in order to satisfy the BOC competitive checklist. Upon the date on which long-term portability must be implemented according to our deployment schedule, BOCs must provide long-term number portability and will be subject to an enforcement action under section 271(d)(6) if they fail to do so.

116. We decline to require a "medium-term" or short-term database solution such as CPC. The increased costs of implementing this approach are unwarranted given the imminent implementation of a long-term solution that meets our criteria. In addition, devoting resources to implement a

medium-term database solution, which is currently not available, may delay implementation of a long-term database solution. We note that the Colorado, Georgia, Illinois, and Ohio state commissions have declined to adopt, and the California and Maryland task forces have declined to recommend, CPC as an interim solution, while the emphasis on New York's CPC trial has shifted in favor of concentrating on the adoption of LRN. We also note that several parties originally advocating CPC have since retreated from that view and now instead support implementing a long-term database solution as soon as possible. To the extent carriers wish to provide a medium-term database solution, such as CPC, however, we do not prevent them from doing so.

3. Cost Recovery for Currently Available Number Portability Measures

a. Positions of the Parties

117. In comments filed before passage of the 1996 Act, Cablevision Lightpath argues that all carriers should pay incremental, cost-based rates for interim measures and suggests, as an example, an annual surcharge based on the product of the incremental cost of switching and minutes of traffic forwarded. AT&T and MCI agree with Cablevision Lightpath and endorse the formula used by the New York Department of Public Service, which allocates the costs of providing interim measures across all carriers based on the product of switching and transport costs, and minutes of forwarded traffic. Cablevision Lightpath urges, however, the Commission to ban incumbent LECs from treating the costs of currently available number portability as exogenous adjustments to their interstate price cap indices. GSA, Jones Intercable, and the Users Committee point out that the short-term incremental costs of providing interim measures are low.

118. Many of the new entrants advocate placing much of the burden of cost-recovery for interim measures on the incumbent LECs. Jones Intercable, along with several other cable interests, argues that the incumbent LECs and new LECs should recover the costs of interim measures under a "bill and keep" system, under which incumbent LECs and new entrants would not charge each other for interim number portability arrangements that require them to forward calls of customers who have changed service providers. In the alternative, Jones Intercable contends that incumbent LECs' charges for interim number portability services should be equal to or less than the LECs'

incremental cost of providing those services. Teleport also supports the provision of interim portability measures with no intercarrier usage charges.

119. Several commenters propose large discounts comparable to those mandated for non-equal access during the transition to equal access. Competitive Carriers assert that allowing LECs to charge retail prices would discourage provision of long-term number portability. MCI argues that portability is a network function, not a service, and proposes that all local carriers share the costs or at least that incumbent LECs not be allowed to recover more than the incremental costs. AT&T and MFS argue that any interim measures should be provided at rates that encourage incumbents to offer the most efficient routing available, or reflect these measures' inferior quality and true costs. ALTS and MFS further argue that competitive local exchange carriers should be entitled to retain all terminating access charges. Similarly, MCI and NCTA argue that the terminating access charges paid by IXCs should be shared with the competitor that actually completes calls forwarded to it.

120. AT&T and MCI argue that the 1996 Act requires that the costs of providing interim number portability measures be borne by all telecommunications carriers on a competitively neutral basis. MFS argues that interim measures should be provided at no cost or in the alternative, allocated on revenues net of payments to intermediaries. Several LECs, in contrast, claim that the competitively neutral standard prohibits requiring incumbent LECs to subsidize their competitors by providing interim measures for free or at deeply discounted rates. Ameritech asserts that section 251(e)(2)'s "competitively neutral" standard for cost recovery does not apply to interim portability at all. It asserts that interim portability is addressed in section 271(c)(2)(B)(xi), and therefore the Commission is not authorized under the BOC checklist to eliminate or discount interim portability rates below levels that state commissions have already judged reasonable. Similarly, BellSouth argues that Congress's endorsement of interim RCF and DID arrangements in the BOC checklist, and the 1996 Act's structure of requiring state-approved carrier negotiations for interconnection agreements, compel the conclusion that RCF and DID cost recovery issues be left to the states.

b. Discussion

121. In light of our statutory mandate that local exchange carriers provide number portability through RCF, DID, or other comparable arrangements until a long-term number portability approach is implemented, we must adopt cost recovery principles for currently available number portability that satisfy the 1996 Act. We emphasize that the cost recovery principles set forth below will apply only until a long-term number portability method can be deployed. As we have indicated, deployment of long-term number portability should begin no later than October 1997, so currently available number portability arrangements, and the associated cost recovery mechanism, should be in place for a relatively short period.

122. It is also important to recognize that the costs of currently available number portability are incurred in a substantially different fashion than the costs of long-term number portability arrangements. First, the capability to provide number portability through currently available methods, such as RCF and DID, already exists in most of today's networks, and no additional network upgrades are necessary. In contrast, long-term, or database, number portability methods require significant network upgrades, including installation of number portability-specific switch software, implementation of SS7 and IN or AIN capability, and the construction of multiple number portability databases. Second, the costs of providing number portability in the immediate term are incurred solely by the carrier providing the forwarding service. Long-term number portability, in contrast, will require all carriers to incur costs associated with the installation of number portability-specific software and the construction of the number portability databases. Those costs will have to be apportioned in some fashion among all carriers. Finally, we note that, initially, the costs of providing currently available number portability will be incurred primarily by the incumbent LEC network because most customers will be forwarding numbers from the incumbents to the new entrants.

123. Parties have advanced a wide range of methods for recovering the costs of currently available number portability measures, including arrangements whereby neither carrier charges the other for provision of such measures and incremental, cost-based pricing schemes. In addition, several states have adopted different cost recovery mechanisms. For example, in

Florida, carriers have negotiated appropriate rates for currently available measures. The Louisiana PSC has adopted a two-tiered approach to pricing of currently available measures. In the first instance, carriers are permitted to negotiate an appropriate rate. If the parties cannot agree upon a rate, the PSC will determine the appropriate rate that can be charged by the forwarding carrier based on cost studies filed by the carriers. These rates are not required to be set at long-run incremental costs (LRIC) or total service long-run incremental costs (TSLRIC), however.

124. In addition, incumbents and new entrants have voluntarily negotiated a variety of cost recovery methods. Carriers in Rochester, New York, for example, are voluntarily using a formula that allocates the incremental costs of currently available number portability measures, through an annual surcharge assessed by the carrier from which the number is transferred. The charge assessed on each carrier is the product of the total number of forwarded minutes and the incremental per-minute costs of switching and transport, multiplied by the ratio of a particular carrier's forwarded telephone numbers relative to total working numbers in the area. In addition, Rochester Telephone has agreed not to charge competitors for the first \$1 million of the cost of number portability. The New York DPS has adopted this formula for the New York Metropolitan area as well. Ameritech and MFS recently entered into an agreement for Ameritech's five-state region under which MFS will pay Ameritech \$3 per line per month for interim measures. MFS plans to seek regulatory approval to allocate that cost under a formula that would require MFS to pay a portion of the \$3 charge equal to the ratio of MFS's gross telecommunications service revenues, net of its payments to other carriers, to Ameritech's gross telecommunications revenues, net of payments to other carriers.

125. Our cost recovery principles for currently available methods, of course, must comply with the statutory requirements of the 1996 Act. In addition, consistent with the pro-competitive objectives of the 1996 Act, we seek to create incentives for LECs, both incumbents and new entrants, to implement long-term number portability at the earliest possible date, since, as we have noted, long-term number portability is clearly preferable to existing number portability methods. The principles we adopt should also mitigate any anti-competitive effects that may arise if a carrier falsely inflates

the cost of currently available number portability.

126. In our interconnection proceeding, we have sought comment on our tentative conclusion that the 1996 Act authorizes us to set pricing principles to ensure that rates for interconnection, unbundled network elements, and collocation are just, reasonable, and nondiscriminatory. We need not, however, reach in this proceeding the issue of whether section 251 generally gives us authority over pricing for interconnection because the statute sets forth the standard for the recovery of number portability costs and grants the Commission the express authority to implement this standard. Specifically, section 251(e)(2) requires that the costs of "number portability be borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission." We therefore conclude that section 251(e)(2) gives us specific authority to prescribe pricing principles that ensure that the costs of number portability are allocated on a "competitively neutral" basis.

127. In exercising our authority under section 251(e)(2), we conclude that we should adopt guidelines that the states must follow in mandating cost recovery mechanisms for currently available number portability methods. To date, the state commissions have adopted different cost recovery methods. We seek to articulate general criteria that conform to the statutory requirements, but give the states some flexibility during this interim period to continue using a variety of approaches that are consistent with the statutory mandate. The states are also free, if they so choose, to require that tariffs for the provision of currently available number portability measures be filed by the carriers.

128. In establishing the standard for number portability cost recovery, section 251(e)(2) sets forth three specific elements, which we must interpret. First, we must determine the meaning of number portability "costs;" second, we must interpret the phrase "all telecommunications carriers;" and third, we must construe the meaning of the phrase "competitively neutral."

129. The costs of currently available number portability are the incremental costs incurred by a LEC to transfer numbers initially and subsequently forward calls to new service providers using existing RCF, DID, or other comparable measures. According to the record, the costs of RCF differ depending on where the call originates in a carrier's network. Calls that originate on the switch from which a number has been forwarded (intraoffice

calls) result in fewer costs than calls that originate from other switches (interoffice calls). This is because fewer transport and switching costs are incurred in the forwarding of an intraoffice call. The BOCs claim, for example, that there are essentially three costs incurred in the provision of RCF for an intraoffice call: (1) Switching costs incurred by the original switch in determining that the number is no longer resident; (2) switching costs incurred in performing the RCF translation, which identifies the address of the receiving switch; and (3) switching costs incurred in redirecting the call from the original switch to the switch to which the number has been forwarded. The BOCs further assert that the additional costs incurred for an interoffice call include: (1) The transport costs incurred in directing the call from the tandem or end office to the office from which the number was transferred and back to the tandem or end office; and (2) remote tandem or end office switching costs. There is conflicting evidence in the record on whether these costs are incurred on a per-minute, per-call, or some fixed basis. State commissions in some states have set cost-based rates for currently available number portability measures. In order to do so, states have used different methods of identifying costs, including LRIC, TSLRIC, and direct embedded cost studies. In California and Illinois, the state commissions set cost-based fixed monthly rates for RCF, while in New York and Maryland, the commissions set cost-based rates for minutes of use. In addition, there is some evidence in the record that carriers incur some non-recurring costs in the provision of currently available methods of number portability. Several states, such as California, Illinois, and Maryland, have permitted the carrier forwarding a number to recover such non-recurring costs as a one-time, non-recurring charge.

130. Section 251(e)(2) of the Communications Act requires that the costs of providing number portability be borne by "all telecommunications carriers." No party commented on the meaning of the term "all telecommunications carriers." Read literally, the statutory language "all telecommunications carriers" would appear to include any provider of telecommunications services. Section 3 of the Communications Act defines telecommunications services to mean "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public,

regardless of facilities used." Under this reading, states may require all telecommunications carriers—including incumbent LECs, new LECs, CMRS providers, and IXC's—to share the costs incurred in the provision of currently available number portability arrangements. As discussed in greater detail below, states may apportion the incremental costs of currently available measures among relevant carriers by using competitively neutral allocators, such as gross telecommunications revenues, number of lines, or number of active telephone numbers.

131. Section 251(e)(2) of the Act states that the costs of number portability are to be "borne by all telecommunications carriers on a competitively neutral basis as determined by the Commission." We interpret "on a 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. Congress mandated the use of number portability so that customers could change carriers with as little difficulty as possible. Our interpretation of "borne * * * on a competitively neutral basis" reflects the belief that Congress's intent should not be thwarted by a cost recovery mechanism that makes it economically infeasible for some carriers to utilize number portability when competing for customers served by other carriers. Ordinarily the Commission follows cost causation principles, under which the purchaser of a service would be required to pay at least the incremental cost incurred in providing that service. With respect to number portability, Congress has directed that we depart from cost causation principles if necessary in order to adopt a "competitively neutral" standard, because number portability is a network function that is required for a carrier to compete with the carrier that is already serving a customer. Depending on the technology used, to price number portability on a cost causative basis could defeat the purpose for which it was mandated. We emphasize, however, that this statutory mandate constitutes a rare exception to the general principle, long recognized by the Commission, that the cost-causer should pay for the costs that he or she incurs.

132. Our interpretation suggests that a "competitively neutral" cost recovery mechanism should satisfy the following two criteria. First, a "competitively neutral" cost recovery mechanism should not give one service provider an appreciable, incremental cost advantage over another service provider, when competing for a specific subscriber. In

other words, the recovery mechanism should not have a disparate effect on the incremental costs of competing carriers seeking to serve the same customer. The cost of number portability borne by a facilities-based new entrant that wins a customer away from an incumbent LEC is the payment that the new entrant must make to the incumbent LEC. The higher this payment, the higher the price the new entrant must charge to a customer to serve that customer profitably, which will put the new entrant at a competitive disadvantage. We thus interpret our first criterion as meaning that the incremental payment made by a new entrant for winning a customer that ports his number cannot put the new entrant at an appreciable cost disadvantage relative to any other carrier that could serve that customer.

133. An example illustrates the application of this criteria. When a facilities-based carrier that competes against an incumbent LEC for a customer, the incumbent LEC incurs no cost of number portability if it retains the customer. If the facilities-based carrier wins the customer, an incremental cost of number portability is generated. The share of this incremental cost borne by the new entrant that wins the customer cannot be so high as to put it at an appreciable cost disadvantage relative to the cost the incumbent LEC would incur if it retained the customer. Thus, the incremental payment by the new entrant if it wins a customer would have to be close to zero, to approximate the incremental number portability cost borne by the incumbent LEC if it retains the customer.

134. A couple of additional examples may further clarify and illustrate this criterion. On the one hand, a cost recovery mechanism that imposes the entire incremental cost of currently available number portability on a facilities-based new entrant would violate this criterion. This cost recovery mechanism would impose an incremental cost on a facilities-based entrant that neither the incumbent, nor an entrant that merely resold the incumbent's service, would have to bear, because neither the incumbent nor the reseller would have to use currently available number portability measures in order for the prospective customer to keep his or her existing number. On the other hand, a cost recovery mechanism that recovers the cost of currently available number portability through a uniform assessment on the revenues of all telecommunications carriers, less any charges paid to other carriers, would satisfy this criterion. This approach does not disparately affect the

incremental cost of winning a specific customer or group of customers, because a LEC with a small share of the market's revenue would pay a percentage of the incremental cost of number portability that will be small enough to have no appreciable effect on the new entrant's ability to compete for that customer.

135. The second criterion for a "competitively neutral" cost recovery mechanism is that it should not have a disparate effect on the ability of competing service providers to earn normal returns on their investment. If, for example, the total costs of currently available number portability are to be divided equally among four competing local exchange carriers, including both the incumbent LEC and three new entrants, within a specific service area, the new entrant's share of the cost may be so large, relative to its expected profits, that the entrant would decide not to enter the market. In contrast, recovering the costs of currently available number portability from all carriers based on each local exchange carrier's relative number of active telephone numbers would not violate this criterion, since the amount to be recovered from each carrier would increase with the carrier's size, measured in terms of active telephone numbers or some other measure of carrier size. In addition, allocating currently available number portability costs based on active telephone numbers results in approximately equal per-customer costs to each carrier. We also believe that assessing costs on a per-telephone number basis should give no carrier an advantage, relative to its competitors. An alternative mechanism that would also satisfy our competitive neutrality requirement would be to recover currently available number portability costs from all carriers, including local exchange, interexchange, and CMRS carriers, based on their relative number of presubscribed customers.

136. We conclude that a variety of approaches currently in use today essentially comply with our competitive neutrality criteria. One example is the formula voluntarily being used by carriers in Rochester, NY, and adopted by the NY DPS in the New York metropolitan area. Specifically, this mechanism allocates the incremental costs of currently available number portability measures, through an annual surcharge assessed by the incumbent LEC from which the number is transferred. This surcharge is based on each carrier's number of ported telephone numbers relative to the total number of active telephone numbers in the local service area. Similarly, as

noted above, a cost recovery mechanism that allocates number portability costs based on a carrier's number of active telephone numbers (or lines) relative to the total number of active telephone numbers (or lines) in a service area would also satisfy the two criteria for competitive neutrality. As noted above, MFS in Illinois plans to seek regulatory approval for a similar formula that would allocate the costs of currently available measures between it and Ameritech based on each carrier's gross telecommunications revenues net of charges to other carriers. A third competitively neutral cost recovery mechanism would be to assess a uniform percentage assessment on a carrier's gross revenues less charges paid to other carriers. Finally, we believe that a mechanism that requires each carrier to pay for its own costs of currently available number portability measures would also be permissible.

137. The cost recovery mechanisms described in the preceding paragraphs define payments made by new entrants to incumbent LECs for providing number portability. We recognize that incumbent LECs must make payments to new entrants if the incumbent LEC wins a customer of the new entrant that wants to port its number. To be competitively neutral, the incumbent LEC would have a reciprocal compensation arrangement with each new entrant. That is, the incumbent LEC would pay to the new entrant a rate for number portability that was equal to the rate that the new entrant pays the incumbent LEC.

138. In contrast, requiring the new entrants 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). Imposing the full incremental cost of number portability solely on new entrants would contravene the statutory mandate that all carriers share the cost of number portability. Moreover, as discussed above, incremental cost-based charges would not meet the first criterion for "competitive neutrality" because a new facilities-based carrier would be placed at an appreciable, incremental cost disadvantage relative to another service provider, when competing for the same customer. Rates for interim number portability would also not meet the second criterion if they approximate the retail price of local service. New entrants may effectively be precluded from entering the local exchange market if they are required to bear all the costs of currently available number portability measures. Retail rates for call

forwarding, to the extent they are set above incremental costs, would also not meet the principles of competitive neutrality for the same reasons that incremental cost-based rates would not. Finally, placing the full cost burden of number portability on new entrants would also deter customers of incumbent carriers from transferring to a new service provider to the extent that the entrant passes on the cost of currently available number portability, in the form of higher prices for customers. In addition, if incumbent LECs were not required to bear a portion of the incremental costs of currently available number portability measures, they would have an incentive to delay implementation of a long-term number portability method.

139. A carrier has a number of options for seeking relief if it believes that the pricing provisions for number portability offered by a LEC violate the statutory standard in section 251(e)(2), the rules we set forth in this order, or state-mandated cost recovery mechanisms. First, it may bring action against the carrier in federal district court pursuant to section 207 for damages or file a section 208 complaint against another carrier alleging a violation of the Act or the Commission's rules. Alternatively, the carrier may file a request for declaratory ruling with the Commission, seeking our view on whether the statute and our rules have been properly applied. Finally, carriers in many instances will be able to pursue existing avenues before their state commission if a dispute arises regarding recovery of currently available number portability costs.

140. Finally, in response to questions concerning the appropriate treatment of terminating access charges in the interim number portability context, we conclude that the meet-point billing arrangements between neighboring incumbent LECs provide the appropriate model for the proper access billing arrangement for interim number portability. We decline to require that all of the terminating interstate access charges paid by IXC's on calls forwarded as a result of RCF or other comparable number portability measures be paid to the competing local service provider. On the other hand, we believe that to permit incumbent LECs to retain all terminating access charges would be equally inappropriate. Neither the forwarding carrier, nor the terminating carrier, provides all the facilities when a call is ported to the other carrier. Therefore, we direct forwarding carriers and terminating carriers to assess on IXC's charges for terminating access through meet-point billing

arrangements. The overarching principle is that the carriers are to share in the access revenues received for a ported call. It is up to the carriers whether they each issue a bill for access on a ported call, or whether one of them issues a bill to the IXC covering all of the transferred calls and shares the correct portion of the revenues with the other carriers involved. If the terminating carrier is unable to identify the particular IXC carrying a forwarded call for purposes of assessing access charges, the forwarding carrier shall provide the terminating carrier with the necessary information to permit the terminating carrier to issue a bill. This may include sharing percentage interstate usage (PIU) data and may require the terminating entity to issue a bill based on allocated interstate minutes per IXC as derived from data provided by the forwarding carrier.

G. Number Portability by CMRS Providers

1. Background

141. In our NPRM, we sought comment and other information on the competitive significance of service provider portability for the development of competition between CMRS and wireline service providers. We also sought comment on the current, and estimated future, demand of commercial mobile radio service customers for portable wireless telephone numbers when they change their service provider either to another CMRS provider or to a wireline service provider. Finally, we sought comment on whether the burdens of implementing service provider portability (1) between CMRS carriers, and (2) between CMRS and wireline carriers are similar to the burdens of implementing service provider portability between wireline carriers.

2. Position of the Parties

142. Parties commenting on CMRS issues generally fall into three groups. One group consists of the providers of Personal Communications Services (PCS). The PCS providers are just beginning to build advanced wireless networks to enter the market. Their successful market entry depends largely upon convincing consumers of other commercial mobile radio services, *e.g.*, cellular, to switch to PCS. The PCS providers therefore want number portability to be implemented as soon as technically possible. A second group is composed primarily of cellular providers, along with paging and messaging service providers. Parties in this category are generally incumbent

service providers with relatively less sophisticated systems. These parties generally claim that number portability is unnecessary in the CMRS marketplace and oppose being required to upgrade their networks for such capabilities at allegedly great expense. A third group includes parties, such as Ameritech and AT&T Wireless, that support implementation of number portability by CMRS providers, but on a later deployment schedule than wireline portability so as to allow time for technical issues specific to CMRS to be resolved.

143. *Authority to Require CMRS Providers To Provide Number Portability.* SBC Communications argues that CMRS providers have no obligation to provide number portability under the 1996 Act, since the 1996 Act imposes that duty only on LECs, and the definition of LEC specifically excludes CMRS providers. As a result, SBC Communications claims, the Commission should examine CMRS portability separately from wireline portability. Similarly, Bell Atlantic NYNEX Mobile, Arch/AirTouch Paging, and MobileMedia argue that the 1996 Act and its legislative history demonstrate that the number portability obligation of section 251(b)(2) was not intended to apply to CMRS providers. BellSouth further argues that CMRS providers should not be required to offer portability until they compete directly with a LEC. Moreover, Bell Atlantic NYNEX Mobile asserts that section 332 of the Communications Act only subjects CMRS providers to limited regulation, where there is a "clear cut need" for doing so.

144. *Importance of Number Portability to CMRS Providers.* Most PCS providers maintain that number portability is important in the CMRS industry because it will promote competition between different types of CMRS providers. PCIA supports long-term number portability solutions for broadband PCS systems when they are technically feasible, and urges the Commission to set a consistent long-term nationwide policy for number portability. Omnipoint, a winner of several licenses in the broadband PCS C Block auction, explains that the success of PCS entry depends on whether PCS providers can attract a significant share of embedded cellular customers.

145. PCIA maintains that number portability is of considerable competitive importance to the broadband CMRS market because the advantages of portability will be a significant factor in consumers' decisions to change providers even though they must endure the

inconvenience of changing equipment to do so. PCS Primeco claims that arguments made by incumbent cellular companies that downplay the importance of CMRS number portability are based on the fact that current cellular subscribers usually do not make their numbers widely known because, under existing cellular pricing plans, subscribers typically pay for both inbound and outbound calls. PCS Primeco contends that, since cellular and other CMRS customers do not distribute their numbers widely, such customers currently may not regard number portability as an important factor in deciding whether to switch CMRS providers. PCS Primeco asserts that in the future, as CMRS providers compete to become a substitute for wireline service, they will not assess charges on inbound calls, and CMRS customers will assign the same importance to number portability as wireline subscribers do today. PCIA argues similarly that portability will facilitate the convergence of and competition between CMRS and wireline services, which will likely result in cellular customers publishing their telephone numbers. PCIA adds that the ability to transfer telephone numbers between wireline and CMRS carriers ameliorates "number exhaustion" concerns. The Illinois Commerce Commission also considers number portability between wireline and CMRS providers important.

146. CTIA maintains that the CMRS industry supports the goal of full number portability for all telecommunications providers, including CMRS providers, but claims that the Commission should not delay implementation of service provider portability in the wireline networks while awaiting network solutions for CMRS carriers. Most of the commenting cellular providers believe that number portability is not as important to CMRS providers as it is to wireline service providers because there is little current demand for CMRS number portability and because of the unique technical problems involved. AT&T asserts that, while number portability is more important in the wireline market than the CMRS market, the Commission should not preclude such portability for CMRS carriers. Parties opposing CMRS portability generally argue that the benefits of CMRS portability are diminished by the following factors: (1) Substantial competition already exists in the CMRS market since CMRS customers already may choose from multiple competitive carriers; (2) CMRS customers place less value on their

numbers, as indicated by the fact that they do not publish them, do not often make them available through directory assistance, and more frequently change their telephone numbers due to competition and a variety of non-competitive reasons; (3) number portability would impair the ability of a carrier to identify immediately the validity of a customer's number and thereby prevent fraudulent use of numbers; (4) customers will have a disincentive to switch carriers because broadband PCS will require equipment that is not compatible with incumbent cellular equipment; (5) number portability would adversely affect roaming capabilities because cellular carriers rely on the ability to identify a roaming cellular customer's "home carrier" by the NPA/NXX; (6) service provider portability would require CMRS carriers to expand significantly the capacity of their roaming databases to provide additional information about each subscriber and his or her current service provider; and (7) CMRS uses different signalling protocols than wireline carriers, which will make implementation of number portability more difficult.

147. Paging providers similarly oppose being required to provide number portability. Arch/AirTouch Paging claims that the recent proliferation of new area codes, the introduction of a variety of competing services, and the availability of 800 and 888 numbers (and possibly of portable 500 and 900 numbers) have reduced in general the importance of number portability for all carriers. Arch/AirTouch Paging further argues against the imposition of number portability on CMRS providers because it believes competition will continue to develop without number portability. It maintains that various factors, such as price, service quality, coverage area, equipment functions, customer service, and enhanced service options can overcome the reluctance of customers to change carriers. PageNet argues that paging and messaging service providers should not be required to provide number portability because these services are already competitive, as no single carrier controls more than 12 percent of any paging market, and that markets, on average, have five competing carriers.

148. *Deployment of Long-Term Solutions by CMRS Carriers.* The PCS providers generally assert that CMRS providers will face technical burdens comparable to wireline carriers in updating their networks, and argue that there is no reason to treat CMRS providers differently from wireline

carriers. Some CMRS parties indicate that it is technically possible to update cellular and PCS networks to accommodate long-term number portability. PCIA acknowledges that implementation of number portability by CMRS providers presents technical difficulties specific to CMRS, but argues that such difficulties can be overcome. PCIA asserts that most broadband carriers already plan to deploy the components necessary to implement LRN (*i.e.*, SS7 signaling, AIN/IN to do database queries and responses, and AIN triggers). Omnipoint contends that implementation deadlines for number portability should apply equally to wireless and wireline carriers, and proposes implementation in the top 100 MSAs between October 1997 and October 1998. Competitive Carriers argues that the Commission's number portability rules should be technology-neutral, and favors requiring implementation of number portability within 24 months of the issuance of our Order throughout the top 100 MSAs.

149. In contrast, several cellular interests claim that upgrading cellular networks to handle number portability will require greater time and effort than adapting wireline networks, primarily because relatively few cellular networks have IN or AIN capabilities, and because the current six-digit-based screening used to validate customer information and handle billing will have to be adapted to ten-digit-based screening. These parties claim that the necessary standards for functions such as ten-digit-based screening have yet to be developed.

150. Several parties caution that implementing number portability for CMRS providers will require more time than for wireline service providers because to date industry efforts aimed at developing number portability have focused on wireline carriers. For example, CMRS carriers did not participate in the Illinois number portability workshop and CMRS carriers generally have not participated in technical trials of number portability. PCIA estimates that it will be four to five years before CMRS networks are capable of implementing long-term number portability. Similarly, AT&T Wireless argues that CMRS carriers must follow a different implementation schedule than wireline.

151. *Interim Number Portability Measures.* Many of the CMRS carriers oppose requiring CMRS carriers to provide measures such as RCF and DID. PCIA and Arch/AirTouch Paging claim that requiring interim measures would divert resources from, and thus delay implementation of, a long-term method.

The paging service providers, in particular, oppose interim measures as not cost-justified and unnecessary for the already competitive paging industry. According to PCIA, RCF and DID currently cannot be provided by mobile telephone switching offices and would be more problematic and expensive to deploy in a CMRS network than in a wireline network. For example, PCIA claims that RCF requires carriers to maintain a point of interconnection within each NPA in which it intends to provide such service, and that, currently, many broadband CMRS carriers' switches do not interconnect at all such points. In addition, PCIA asserts that most new broadband carriers are already planning to deploy the components necessary to implement a long-term database method as part of their initial network designs. Consequently, those new broadband carriers might have to spend as much or more to upgrade their networks to support interim measures as they would to upgrade to support a long-term database method. Because substantial resources would have to be devoted to modifying CMRS networks to support interim measures, and thus diverted away from modifying CMRS networks to support long-term number portability, requiring implementation of interim measures now might delay future implementation of the long-term method. Other CMRS carriers make claims of technical inefficiencies, but acknowledge that RCF and DID are technically possible for CMRS providers today.

3. Discussion

152. *Authority to Require CMRS Providers to Provide Number Portability.* Section 251(b) requires local exchange carriers to provide number portability to all telecommunications carriers, and thus to CMRS providers as well as wireline service providers. The statute, however, explicitly excludes commercial mobile service providers from the definition of local exchange carrier, and therefore from the section 251(b) obligation to provide number portability, unless the Commission concludes that they should be included in the definition of local exchange carrier. Our recent NPRM on interconnection issues raised by the 1996 Act seeks comment on whether, and to what extent, CMRS providers should be classified as LECs. Because we conclude that we have independent bases of jurisdiction over commercial mobile service providers, we need not decide here whether CMRS providers must provide number portability as

local exchange carriers under section 251(b).

153. We possess independent authority under sections 1, 2, 4(i), and 332 of the Communications Act of 1934, as amended, to require CMRS providers to provide number portability as we deem appropriate. Ensuring that the portability of telephone numbers within the United States is handled efficiently and fairly is within our jurisdiction under these other provisions of the Communications Act. Sections 2 and 332(c)(1) of the Act give the Commission authority to regulate commercial mobile service providers as common carriers, except for the provisions of Title II that we specify are inapplicable. Section 1 of the Act requires the Commission to make available to all people of the United States "a rapid, efficient, Nation-wide, and world-wide wire and radio communication service." The Commission's interest in number portability is bolstered by the potential deployment of different number portability solutions across the country, which would significantly impact the provision of interstate telecommunications services. Section 1 also creates a significant federal interest in the efficient and uniform treatment of numbering because such a system is essential to the efficient delivery of interstate and international telecommunications. Implementation of long-term service provider portability by CMRS carriers will have an impact on the efficient use and uniform administration of the numbering resource. Section 4(i) grants the Commission authority to "perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with [the Communications Act of 1934, as amended], as may be necessary in the execution of its functions." We conclude that the public interest is served by requiring the provision of number portability by CMRS providers because number portability will promote competition between providers of local telephone services and thereby promote competition between providers of interstate access services.

154. Bell Atlantic NYNEX Mobile cites the *CT DPUC Petition* in support of its argument that the Commission can only regulate CMRS providers under section 332 to the extent clearly necessary, and that regulation of number portability is not clearly necessary in the CMRS market. We conclude, however, that the *CT DPUC Petition* does not limit our authority to require CMRS providers to provide number portability to other CMRS or

wireline carriers because that proceeding did not address the Commission's authority to require CMRS providers to provide number portability. That proceeding related solely to state authority to regulate rates of CMRS providers. We believe that imposing number portability obligations on CMRS providers will foster increased competition in the CMRS marketplace, and furthers our CMRS regulatory policy of establishing moderate, symmetrical regulation of all services, and a preference for curing market imperfections by lowering barriers to entry in order to encourage competition.

155. *Importance of Number Portability to CMRS Providers.* We require cellular, broadband PCS, and covered specialized mobile radio (SMR) providers (as defined in the First Report and Order in CC Docket 94-54), which are the CMRS providers that are expected to compete in the local exchange market, to offer number portability. This mandate is in the public interest because it will promote competition among cellular, broadband PCS, and covered SMR carriers, as well as among CMRS and wireline providers. We therefore include those carriers in our mandate to provide long-term service provider portability, under the Commission-mandated performance criteria set forth above, pursuant to our authority under sections 1, 2, 4(i), and 332 of the Communications Act of 1934. This mandate applies when switching among wireline service providers and broadband CMRS providers, as well as among broadband CMRS providers, even if the broadband CMRS and wireline service providers or the two broadband CMRS providers are affiliated. We base this conclusion on our view, as discussed in the following paragraphs, that cellular, broadband PCS, and covered SMR providers will compete directly with one another, and potentially will compete in the future with wireline carriers.

156. We specifically exclude at this time paging and other messaging services, and the following CMRS providers as listed in part 20 of our rules: Private Paging, Business Radio Services, Land Mobile Systems on 220-222 MHz, Public Coast Stations, Public Land Mobile Service, 800 MHz Air-Ground Radio-Telephone Service, Offshore Radio Service, Mobile Satellite Services, Narrowband PCS Services. We do so because such services currently will have little competitive impact on competition between providers of wireless telephony service or between wireless and wireline carriers. Because local SMR licensees offering mainly dispatch services to specialized

customers in a non-cellular system configuration do not compete substantially with cellular and broadband PCS providers, we also exclude them from the number portability requirements we adopt today. For similar reasons, we also specifically exclude at this time Local Multipoint Distribution Service (LMDS). If, however, any of these services begins to compete in the local exchange market, or if there are other public interest reasons to require them to provide number portability, we will reassess the exclusion of these services from the requirement to provide number portability.

157. Service provider portability between cellular, broadband PCS, and covered SMR providers is important because customers of those carriers, like customers of wireline providers, cannot now change carriers without also changing their telephone numbers. While we recognize that customers may need to purchase new equipment when switching among such CMRS providers, the inability of customers to keep their telephone numbers when switching carriers also hinders the successful entrance of new service providers into the cellular, broadband PCS, and SMR markets. We believe, therefore, that service provider portability, by eliminating one major disincentive to switch carriers, will ameliorate customers' disincentive to switch carriers if they must purchase new equipment. We believe service provider portability will promote competition between existing cellular carriers, as well as facilitate the viable entry of new providers of innovative service offerings, such as PCS and covered SMR providers.

158. With the recent and expected future entry of new PCS providers, and the growth of existing CMRS generally, we believe it important that service provider portability for cellular, broadband PCS, and covered SMR providers be made available so as to remove barriers to competition among such providers. Removing barriers, such as the requirement of changing telephone numbers when changing providers, will likely stimulate the development of new services and technologies, and create incentives for carriers to lower prices and costs. We find unpersuasive arguments that number portability is unimportant because the CMRS market is already substantially competitive since CMRS customers already may choose from multiple competitive carriers. Most CMRS customers today subscribe to cellular service because broadband PCS has been offered for a very short time,

SMR service has typically been used for communications among mobile units of the same business subscriber (e.g., taxi dispatch), and mobile satellite services have typically been used only in rural areas. The possibility of entry by new competitors can constrain monopolistic, or in this case, duopolistic, conduct by incumbent providers and thus serve the public interest by potentially lowering prices, improving service quality, and encouraging innovation. We note that while the cellular industry, with two facilities-based carriers offering service in each market area, is more competitive than traditional monopoly telephone markets, it is far from perfectly competitive. The United States Government Accounting Office, the Department of Justice, and the Commission have determined that only limited competition currently exists in the cellular market.

159. We conclude that number portability will facilitate the entry of new service providers, such as PCS and covered SMR providers, into CMRS markets currently dominated by cellular carriers, and thus provide incentives for incumbent cellular carriers to lower prices and increase service choice and quality. Indeed, we noted recently that competition from PCS, alone, is expected to reduce cellular prices by as much as 40 percent over the next two years. We believe that such pro-competitive effects will be enhanced by eliminating the need for customers to change telephone numbers when switching providers of cellular services, broadband PCS, and covered SMR services.

160. We further conclude that number portability will promote competition between CMRS and wireline service providers as CMRS providers offer comparable local exchange and fixed commercial mobile radio services. The Commission has recognized on several occasions that CMRS providers, such as broadband PCS and cellular, will compete in the local exchange marketplace. For example, the Commission permitted Southwestern Bell Mobile Systems, Inc. to own local exchange facilities outside of Southwestern Bell's service area in order to "promote significant Commission objectives by encouraging local loop competition. The development of CMRS is one of several potential sources of competition that we have identified to bring market forces to bear on the existing LECs." The Commission also adopted an auction licensing mechanism to speed deployment of PCS and thereby "create competition for existing wireline and wireless services." In addition, the

Commission decided to permit foreign investment in Sprint Corporation based, in part, on a finding that a portion of that investment would be used to fund PCS competition with wireline local exchange providers in the U.S. market. Finally, in the *Fixed CMRS Notice* (61 FR 6189 (February 16, 1996)), the Commission tentatively concluded that PCS and cellular providers will provide fixed CMRS local loop services, and that such carriers will directly compete with traditional wireline local exchange carriers. We believe, for the reasons stated above, that service provider portability will encourage CMRS-wireline competition, creating incentives for carriers to reduce prices for telecommunications services and to invest in innovative technologies, and enhancing flexibility for users of telecommunications services.

161. We find unpersuasive commenters' arguments that number portability is not a competitive issue for CMRS providers because consumers are not interested in retaining their CMRS numbers. We recognize that currently customers of cellular, broadband PCS, and covered SMR providers may generally initiate more calls than they receive, and are reluctant to distribute their CMRS telephone numbers. We agree with the argument advanced by PCS Primeco that this reluctance generally is caused by the current cellular carrier pricing structures, under which customers pay for incoming calls, rather than lack of attachment to CMRS telephone numbers. Several parties have indicated that at least some CMRS providers intend to compete with wireline carriers in the local exchange market. To do so effectively, CMRS carriers are likely to change their pricing structures to resemble more closely wireline pricing structures. As broadband CMRS pricing structures are modified as a likely result of increased competition, and cellular, broadband PCS, and covered SMR become integrated and less functionally distinguishable from wireline services, customers may be more likely to make their CMRS telephone numbers known, and utilize numbering resources in a manner more comparable with that of the current wireline market. We, therefore, conclude that requiring number portability for cellular, broadband PCS, and covered SMR providers will enhance the development of competition among those providers and among CMRS and wireline service providers.

162. *Deployment of Long-Term Solutions by CMRS Carriers.* The record of this proceeding suggests that cellular, broadband PCS, and covered SMR

providers will face burdens comparable to wireline carriers in modifying their networks to implement number portability, and that any technical issues that are unique to those carriers can be resolved. While a number of parties have raised CMRS-specific issues that must be resolved before CMRS carriers can effectively provide number portability, we conclude that the record demonstrates that none of these difficulties are insurmountable. Several parties claim that CMRS networks can be updated to accommodate long-term number portability. In addition, the report on number portability recently released by the INC indicates that broadband CMRS roaming systems, including mobile station registration and call delivery, switches, protocols, and wireline interconnection arrangements can be updated to accommodate number portability. PCIA asserts that most broadband carriers already plan to deploy the components necessary to implement LRN (i.e., SS7 signaling, IN/AIN to do database queries and responses, and AIN triggers). Omnipoint argues that the cellular industry has failed to demonstrate why CMRS-specific technical issues cannot be worked out within the same time as wireline technical issues.

163. A number of commenters, however, also suggest that implementation of service provider portability for broadband CMRS would necessitate more time than deployment of wireline methods. For instance, several cellular interests claim that upgrading cellular networks to handle number portability will require greater time and effort than adapting wireline networks, primarily because relatively few cellular networks have IN or AIN capabilities, and because the current six-digit-based screening used to provide roaming, validate customer information, and handle billing will have to be adapted to ten-digit-based screening. These parties claim that the necessary standards for functions such as ten-digit-based screening have yet to be developed.

164. It appears that while the wireline industry has already developed many of the standards and protocols necessary for wireline carriers to provide number portability, the CMRS industry is only beginning to address the additional standards and protocols specific to the provision of portability by CMRS carriers. The technical requirements for broadband CMRS portability have been given comparatively little attention compared to those for wireline. Initial state efforts have generally not addressed CMRS issues; for example, the Illinois Number Portability

Workshop, which began studying wireline portability in April 1995, only plans to begin addressing CMRS portability in July 1996. Moreover, cellular, broadband PCS, and covered SMR providers face technical burdens unique to the provision of seamless roaming on their networks, and standards and protocols will have to be developed to overcome these difficulties. Therefore, based on the record, and the technical evidence presented both by the parties in this proceeding and the INC Report, we conclude that cellular, broadband PCS, and covered SMR providers should implement long-term service provider portability based on the following schedule.

165. We require all cellular, broadband PCS, and covered SMR carriers to have the capability of querying appropriate number portability database systems in order to deliver calls from their networks to ported numbers anywhere in the country by December 31, 1998, the date by which wireline carriers must complete implementation of number portability in the largest 100 MSAs. This schedule will ensure that cellular, broadband PCS, and covered SMR providers will have the ability to route calls from their customers to a wireline customer who has ported his or her number, by the time a substantial number of wireline customers have the ability to port their numbers between wireline carriers. This capability to access a database for routing information can be accomplished in either of two ways. First, the carrier may implement hardware and software upgrades (e.g., IN/AIN capabilities) similar to those needed in wireline networks. Since these upgrades do not require development of the standards and protocols necessary to support roaming, we believe that cellular, broadband PCS, and covered SMR carriers should be able to complete these upgrades by the date by which wireline carriers must complete implementation of number portability in the largest 100 MSAs. Second, the carrier may make arrangements with other carriers that are capable of performing database queries. Cellular, broadband PCS, and covered SMR carriers operating in areas outside the largest 100 MSAs thus would need to make arrangements with other CMRS providers that have the capability to query databases, or with wireline carriers in the largest 100 MSAs, which will have completed deployment of number portability by December 31, 1998.

166. We require all cellular, broadband PCS, and covered SMR

carriers to offer service provider portability throughout their networks, including the ability to support roaming, by June 30, 1999. The record indicates that additional time is needed to develop standards and protocols, such as ten-digit-based screening, to overcome the technical burdens unique to the provision of seamless roaming on cellular, broadband PCS, and covered SMR networks. Individual carriers, of course, may implement number portability sooner, and we expect that some carriers will do so based on individual technical, economic, and marketing considerations. We believe a nationwide implementation date for number portability for cellular, broadband PCS, and covered SMR providers is necessary to ensure that validation necessary for roaming can be maintained. We delegate authority to the Chief, Wireless Telecommunications Bureau, to establish reporting requirements in order to monitor the progress of cellular, broadband PCS, and covered SMR providers implementing number portability, and to direct such carriers to take any actions necessary to ensure compliance with this deployment schedule. We believe it necessary to establish reporting requirements for CMRS to ensure timely resolution of the standards issues unique to CMRS number portability, particularly roaming.

167. We recognize, however, that additional technical issues may arise as the industry begins to focus on provision of portability by CMRS carriers. We therefore delegate authority to the Chief, Wireless Telecommunications Bureau, to waive or stay any of the dates in the implementation schedule, as the Chief determines is necessary to ensure the efficient development of number portability, for a period not to exceed 9 months (i.e., no later than September 30, 1999, for the first deadline, and no later than March 31, 2000, for the second deadline).

168. In the event a carrier is unable to meet our deadlines for implementing a long-term number portability solution, it may file with the Commission at least 60 days in advance of the deadline a petition to extend the time by which implementation in its network will be completed. We emphasize, however, that carriers are expected to meet the prescribed deadlines, and a carrier seeking relief must present extraordinary circumstances beyond its control in order to obtain an extension of time. Carriers seeking such relief must demonstrate through substantial, credible evidence the basis for its contention that it is unable to comply

with our deployment schedule. Such requests must set forth: (1) The facts that demonstrate why the carrier is unable to meet our deployment schedule; (2) a detailed explanation of the activities that the carrier has undertaken to meet the implementation schedule prior to requesting an extension of time; (3) an identification of the particular switches for which the extension is requested; (4) the time within which the carrier will complete deployment in the affected switches; and (5) a proposed schedule with milestones for meeting the deployment date.

169. *Interim Number Portability Measures.* We do not require CMRS providers to provide RCF, DID, or comparable measures. Different treatment of CMRS and wireline carriers in this instance is justified by their differing circumstances. According to the record, RCF and DID currently cannot be provided by mobile telephone switching offices. Due to the different nature of CMRS networks and wireline networks, implementation of RCF or DID capability in a CMRS network appears far more problematic and expensive than in a wireline network. For example, PCIA claims that RCF requires carriers to maintain a point of interconnection within each NPA in which it intends to provide such service, and that currently, many broadband CMRS carriers' switches do not interconnect at all such points. Moreover, cellular roaming systems would have to be modified to account for the fact that, under RCF, a number different than the one dialed is used to route the call. As a result, alternative means will have to be developed to enable CMRS carriers to validate mobile subscribers who have roamed out of their service areas. Broadband carriers may also have to purchase new switches in order to provide RCF and DID. Moreover, most new broadband carriers are already planning to deploy the components necessary to implement a long-term database method as part of their initial network designs. Consequently, those new broadband carriers might have to spend as much or more to upgrade their networks to support interim measures as they would spend to upgrade to support a long-term database method, and requiring implementation of both might delay implementation of the long-term method. We also find it significant that, while the wireline parties advocating full portability generally support interim measures, the CMRS parties advocating full portability generally oppose interim measures.

170. We therefore conclude that it would be counterproductive to require

CMRS carriers to provide interim measures since they can provide long-term portability comporting with our standards just as quickly and less expensively. We believe that relieving cellular, broadband PCS, and covered SMR carriers of the burden of providing interim measures will allow them to devote their full resources toward implementing a long-term method and thus enhance their ability to provide long-term portability on the same schedule as wireline carriers. We note that CMRS carriers are, of course, free to provide interim number portability, if they choose to do so.

171. *Number Transferability.* A few parties raise the issue of number transferability, the ability of a reseller to transfer telephone numbers from one facilities-based carrier to another in order to permit the reseller's end user customers to retain their existing telephone numbers. Because the record does not establish any relationship between number transferability and number portability, and does not identify the technical issues involved in providing number transferability, we decline to address the provision of number transferability in this proceeding. We note that this issue has been raised in the *Second CMRS Interconnection NPRM* (60 FR 20949 (April 28, 1996)), and will be addressed in CC Docket No. 94-54.

H. Service and Location Portability

1. Background

172. While service provider portability refers to the ability of end users to retain the same telephone numbers as they change from one service provider to another, service portability refers to the ability of users of telecommunications services to retain existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications service to another service provided by the same telecommunications carrier. We regard switching among wireline service providers and broadband CMRS providers, or among broadband CMRS providers, as changing service providers, not changing services, even if the broadband CMRS and wireline service providers or the two broadband CMRS providers are affiliated. We base this conclusion on our view that CMRS providers, such as cellular, broadband PCS, and covered SMR providers, compete directly with one another, and broadband CMRS providers potentially will compete in the future with wireline carriers.

173. Today, telephone subscribers must change their telephone number

when they change telephone service (e.g., from Plain Old Telephone Services (POTS) to Integrated Services Digital Network (ISDN)) because a particular service may be available only through a particular switch. In our NPRM, we sought comment on the demand for service portability and the extent to which a lack of service portability inhibits the growth of new services, such as ISDN. We requested information on the relative importance of service portability to the decisions of end users when considering whether to switch from one service to another. We also sought comment on what public interest objectives would be served by encouraging (or possibly mandating) implementation of service portability, and how the Commission could encourage service portability.

174. Location portability refers to the ability of users of telecommunications services to retain existing telecommunications numbers without impairment of quality, reliability, or convenience when moving from one physical location to another. Today, telephone subscribers must change their telephone numbers when they move outside the area served by their current central office. In our NPRM, we sought comment on the demand for location portability and the geographic area in which portability might be desired by consumers. We asked what federal policy objectives would be served by encouraging (or possibly mandating) implementation of location portability, and how such objectives could be attained. We sought comment on the potential impact that location portability for wireline telephone numbers and the development of the 500 personal communications services market, which permits customers to be reached through a single telephone number regardless of their location, may have on each other.

2. Position of the Parties

175. Most parties agree that location portability and service portability do not have the same potential impact on consumer choice and on the development of local competition as service provider portability. Pacific Bell and the Missouri PSC argue that the availability of service portability will be driven by market forces, and that product differentiation will stimulate customers to change their telecommunications services. Ameritech and SBC Communications note that since the 1996 Act addresses only service provider portability, the Commission should not adopt rules mandating service and location portability. OPASTCO claims that

requiring service portability would strain the limited abilities of small LECs, and thus delay deployment of rural infrastructure. The Missouri PSC and New York DPS argue that there currently is not enough demand for ISDN to warrant requiring service portability. The Florida PSC, on the other hand, maintains that, in many cases, service portability is already available, as long as the switch has the needed functionality.

176. Most parties agree that implementation of location portability poses many problems, including: (1) Loss of geographic identity of one's telephone number; (2) lack of industry consensus as to the proper geographic scope of location portability; (3) substantial modification of billing systems and the consumer confusion regarding charges for calls; (4) loss of the ability to use 7-digit dialing schemes; (5) the need to restructure directory assistance and operator services; (6) coordination of number assignments for both customer and network identification; (7) network and switching modifications to handle a two-tiered numbering system; (8) development and implementation of systems to replace 1+ as toll identification; and (9) possible adverse impact on E911 services.

177. Several BOCs maintain that the Commission should require location portability immediately because currently new entrants can serve larger geographic areas with a single switch. Some of these parties maintain that the ability of competing carriers to serve larger geographic areas from a single wire center may increase consumer demand for location portability, thus giving competing carriers an advantage over incumbent LECs. MCI, SBC Communications, Nextel, and Arch/AirTouch Paging argue that, if location portability is implemented, it should be limited to the local calling area of a wireline carrier. MCI further maintains that allowing numbers to be transferred across NPA or state boundaries would negatively affect the numbering resource because individuals could remove numbers from the NPA by taking such numbers to other areas of the country. In contrast, GSA believes that the greater the geographic scope of location portability, the more meaningful the consumer benefits.

178. While many parties believe location portability has some value, most parties maintain that its implementation should not delay implementation of service provider portability. At the same time, numerous parties, including incumbents, new entrants, and state commissions, argue

that any number portability method adopted by the Commission should be capable of expanding to encompass location portability if such demand arises. GSA, Nortel, and Bell Atlantic argue that a long-term portability method should eventually encompass service and location portability. The National Emergency Numbering Association (NENA) contends the statutory definition of "number portability" in its broadest interpretation would limit any requirement to provide location portability to the area served by the same central office.

179. Pacific Bell and Time Warner Holdings argue that market forces should drive the development of location portability. Florida PSC, Missouri PSC, ACTA, Pacific Bell, BellSouth, and Sprint maintain that current market demand for location portability is mixed, and depends on such factors as the geographic scope of location portability and costs of implementation. GSA, on the other hand, claims that demand for location portability is reflected in the increase in demand for 800 services and by the demand for 500 services. A number of wireless parties argue that wireless carriers already provide significant location portability. Finally, the New York DPS maintains that location portability, if limited to a rate center, will avoid the problems of customer confusion, and that the 1996 Act does not prohibit provision of location portability within that limitation.

180. OPASTCO, SBC Communications, and Nextel argue that location portability should only be provided through use of non-geographic numbers, such as 500 services. GTE argues that its survey illustrates that customers are not adverse to a one-time number change to a non-geographic number in order to have number portability. Florida PSC maintains, however, that location portability and 500 services serve different purposes, with location portability providing the ability to take a phone number when a customer changes premises, and 500 services providing the ability to take a telephone number to different locations during the day, week, or month.

3. Discussion

181. We decline at this time to require LECs to provide either service or location portability. This decision is not inconsistent with the 1996 Act, which mandates the provision of service provider portability, but does not address explicitly service or location portability. The 1996 Act's requirement to provide number portability is limited

to situations when users remain "at the same location," and "switch[] from one telecommunications carrier to another," and thus does not include service and location portability.

182. While the 1996 Act does not require LECs to offer service and location portability, it does not preclude this Commission from mandating provision of these features if it would be in the public interest, nor does it prevent carriers from providing service and location portability, consistent with this Order, if they so choose. We believe, however, that requiring service or location portability now would not be in the public interest. As the record indicates, service provider portability is critical to the development of competition, but service and location portability have not been demonstrated to be as important to the development of competition.

183. Consistent with the result advocated by most parties commenting on this issue, we believe that a mandate for service portability is unnecessary for several reasons. First, and most importantly, requiring carriers to make the necessary switch and network modifications to accommodate service portability as well as service provider portability may delay implementation of the latter. Second, consumer demand for service portability is unclear. The record indicates that the benefits of service portability are limited because the current unavailability of this capability affects only customers who wish to change their current service to Centrex and ISDN services or vice versa. Since most non-basic services offered by incumbent LECs are purchased in addition to (not in lieu of) basic services, implementation of service portability may actually lower demand for the alternate services if it raises their prices. Third, our requirement to provide service provider portability does not preclude carriers from offering service portability where they perceive a demand for it. In fact, our mandate will likely facilitate carriers' ability to provide service portability. Service provider portability will naturally drive the provision of service portability because if a user can receive a different service and keep the same number simply by switching carriers, service providers will have an incentive to offer service portability to keep those customers. Finally, carrier attempts to differentiate their products from those of other carriers will stimulate changes in services by customers, regardless of service portability.

184. We also believe that, at this time, the disadvantages of mandating location portability outweigh the benefits. Our

chief concern is that users currently associate area codes with geographic areas and assume that the charges they incur will be in accordance with the calling rates to that area. Location portability would create consumer confusion and result in consumers inadvertently making, and being billed for, toll calls. Consumers would be forced to dial ten, rather than seven, digits to place local calls to locations beyond existing rate centers. In order to avoid this customer confusion, carriers, and ultimately consumers, would incur the additional costs of modifying carriers' billing systems, replacing 1+ as a toll indicator, and increasing the burden on directory, operator, and emergency services to accommodate 10-digit dialing and the loss of geographic identity.

185. In addition to the disadvantages, the demand for location portability is currently unclear. There is no consensus on the preferred geographic scope of location portability. Also, users who strongly desire location portability can use non-geographic numbers by subscribing to a 500 or toll free number. Finally, whereas having to change numbers deters users from switching service providers, we believe that a customer's decision to move to a new residential or business location generally would not be influenced significantly by the availability of number portability. Therefore, location portability will not foster the development of competition to the same extent as service provider portability.

186. We recognize that new entrants will be able to offer a greater range of location portability per switch due to their network architecture and because they will generally have fewer customers in the area covered by a switch. To avoid the consumer confusion and other disadvantages inherent in requiring location portability, however, we believe state regulatory bodies should determine, consistent with this Order, whether to require carriers to provide location portability. We believe the states should address this issue because we recognize that "rate centers" and local calling areas have been created by individual state commissions, and may vary from state to state. To the extent rate centers and/or local calling areas vary from state to state, the degree of location portability possible without causing consumer confusion may also vary. We therefore expect state regulatory bodies to consider the particular circumstances in their respective locales in determining whether to require carriers to implement location portability.

187. We recognize that location portability would promote consumer flexibility and mobility and potentially promote competition by allowing carriers to offer different levels of location portability in a competitive manner. Also, the importance that consumers attribute to the geographic identity of their telephone numbers may change, and our concerns regarding customer confusion may no longer hold true. For these reasons, we require any long-term method to have the capability of accommodating location and service portability if, in the future, demand increases or the burdens decrease.

I. 500 and 900 Number Portability

1. Background

188. Currently, consumers can purchase 500 or 900 services from either local exchange or interexchange carriers. A consumer subscribing to 500 service receives a 500 "area code" number that can be programmed to deliver calls wherever the consumer travels in the United States and in many locations around the world. 900 service is a calling service providing businesses with a method to deliver information, advice, or consultations quickly and conveniently by telephone. Individuals calling 500 or 900 subscribers dial 500 or 900 plus a 7-digit number (NXX-XXXX). When a call is placed to a 500 or 900 service telephone number, the originating LEC uses the NXX of the dialed number to identify the carrier serving either the owner of the 500 number, or the business operating the 900 number service. The LEC then routes the call over the appropriate carrier's network.

189. In the NPRM, we tentatively concluded that service provider portability for 500 and 900 numbers is beneficial for customers of those services. We sought comment on this tentative conclusion and on the costs (monetary and nonmonetary) of making such portability available. With respect to 500 service provider portability, we sought comment on the estimated costs of deploying and operating a database solution, and whether it would be technically feasible to upgrade the existing 800 database and associated software to accommodate PCS N00 numbers. We also sought comment on whether it is feasible (both technically and economically) to provide PCS N00 service provider portability in a switch-based translation environment. Further, we sought comment on the following issues raised by the Industry Numbering Committee's (INC's) PCS N00 report: (1) Who would be the owner/operator of an SMS administering a PCS N00 database;

(2) how would that administrator be selected; (3) how would the costs of providing PCS N00 portability be recovered; and (4) by what date should PCS N00 portability be deployed. Finally, we sought comment on the ability of 900 number portability to lower prices and stimulate demand for 900 services, and on the costs of deploying and operating the necessary database.

2. Positions of the Parties

190. In comments filed prior to passage of the 1996 Act, a majority of parties argue that consideration of 500 and 900 number portability is premature, as the current costs of implementation outweigh any benefits. Indeed, several LECs maintain that the Commission should establish a separate docket to address the unique issues raised by 500 and 900 service provider portability.

191. In contrast, MCI, Citizens Utilities, Competitive Carriers, Florida Public Service Commission, and some CMRS providers contend that 500 and 900 number portability would benefit consumers, and that service provider portability for 500 and 900 numbers should be developed, as long as the costs are not prohibitive. The information service providers generally agree that 900 portability should be mandated by the Commission as soon as possible to increase competition for information service provider traffic among IXC's, and to offer a more efficient and broader range of information services.

192. Interactive Services, MCI, and Teleservices maintain that the toll free database can be modified to include 900 numbers at relatively modest cost, and that the implementation and administration of toll free number portability would provide a model for 500 and 900 number portability. Both Interactive Services and MCI note that parties have failed to provide relevant cost and benefit data in the record of this proceeding, and urge the Commission to require parties to submit data concerning the total costs of implementation and operation.

193. Ameritech states that updating the existing toll free platform to support 900 numbers is technically possible, but would require extensive systems modifications. Ameritech also states that it would be technically and economically infeasible to provide PCS N00 portability in a switch-based translation environment due to the memory capacity limitations and the operational issues associated with updating the routing tables. Bell Atlantic states that it may be technically

feasible to upgrade the existing toll free database to accommodate 500 and 900 numbers, but this would require extensive system changes. NYNEX supports implementation of service provider portability for 500 numbers as proposed in the INC Report on PCS N00 Portability, which sets forth a four-year implementation schedule. USTA argues that 500 number portability can best be provided through a national, centralized database, similar to the toll free database, and notes that a 900 number portability solution may not be able to utilize the same platform as that contemplated for 500 number portability because of the differing structures of the services associated with 900 number services.

194. Only two parties addressed the issue of 500 or 900 portability in comments filed after passage of the 1996 Act. Interactive Services asserts that the 1996 Act requires LECs to provide service provider portability for 900 numbers when technically feasible, and that the record in this proceeding demonstrates that long-term service provider portability for 900 numbers is technically feasible. Interactive Services did not comment on whether service provider portability for 500 numbers is technically feasible. BellSouth states that the 1996 Act is silent with respect to the portability of non-geographic numbers.

3. Discussion

195. Section 251(b)(2) of the 1996 Act requires all LECs "to provide, to the extent technically feasible, number portability in accordance with requirements prescribed by the Commission." Section 3, in turn, defines number portability as "the ability of users of telecommunications services to retain, at the same location, existing telephone numbers * * * when switching from one telecommunications carrier to another."

196. While both LECs and interexchange carriers are able to provide 500 and 900 services, such services are more frequently provided by IXC's. LECs, to date, have offered relatively few 500 and 900 services because the Bell Operating Companies, which serve over 76 percent of the nation's access lines, were precluded from offering interLATA services under the Modification of Final Judgment, and therefore could offer 500 and 900 services only on an intraLATA basis. Conversely, 500 and 900 interLATA services, which account for most of the 500 and 900 numbers, have, up until now, been exclusively provided by IXC's. Thus, most users of 500 and 900

services obtain their numbers from IXC's, and not from LECs.

197. Although the statute does not define specifically the numbers that must be portable, the statute on its face imposes an obligation to provide number portability only on LECs. Because the statute's directive to provide number portability applies only to LECs, IXC's are not obligated under the 1996 Act to participate in making their numbers portable when their customers wish to move their numbers to another IXC or any other carrier offering 500 or 900 service. In the case of 900 service, the "user" of the telecommunications service that wants to keep its number when switching carriers is the business that is offering a 900 service, not the end user that is purchasing the information service from the 900 service provider. A 900 service provider typically purchases transport from an IXC and uses a 900 number assigned to that IXC to offer its service. As a consequence, if a 900 service provider wishes to retain its number when switching from one carrier to another, the IXC (and not the LEC that provides exchange access to the IXC) is the party that would have to release the management of the number in question. Likewise, 500 service today is offered exclusively by IXC's, which have blocks of 500 numbers assigned to them for this purpose. When a 500 customer wishes to switch from one carrier to another, the IXC providing the 500 service (and not the LEC that provides exchange access to the 500 service provider) would have to relinquish the number in question to the competing carrier. Thus, as a practical matter, portability for the vast majority of 500 and 900 numbers can occur only if the IXC releases to the new carrier management of the assigned 500 or 900 number that is to be ported.

198. We recognize, however, that LECs increasingly may offer 500 and 900 services themselves in the future. To the extent they do, we conclude that those LECs would be obligated under the 1996 Act to offer number portability for their own 500 and 900 numbers to the extent "technically feasible." We believe we have insufficient evidence in this record to determine whether it is technically feasible for LECs to provide portability for their own 500 and 900 numbers. Neither the INC nor state number portability task forces have addressed the issue of 500 and 900 number portability. The record developed on this issue largely predates passage of the 1996 Act, and as a consequence, few parties have focused on this issue. No party to this proceeding has suggested that any of the currently available methods, such as

RCF or DID, or any of the long term methods currently under consideration, such as LRN, could be used to provide portability for non-geographic numbers. Instead, the parties that addressed this issue suggest that the current toll free database potentially could be modified to accommodate 500 and 900 numbers, but note that a host of major technical issues would need to be resolved. The only party to this proceeding that argues that the Commission is required under the 1996 Act to mandate service provider portability for 900 numbers, Interactive Services, fails to address the fact that the statutory obligation to offer number portability falls only on LECs, and not on other carriers that offer 900 services. No party has addressed the technical feasibility of modifying the existing toll free database to make only those 500 and 900 numbers that are assigned to LECs portable. We, therefore, direct the INC to examine this issue, and file a report with this Commission within twelve months of the effective date of this order addressing the technical feasibility of requiring LECs to make their assigned 500 and 900 numbers portable, whether it be through modifying the existing toll free database or through another system. Upon receipt of this report, we will take appropriate action under the 1996 Act.

Regulatory Flexibility Act Analysis

Final Analysis of First Report and Order

199. As required by section 603 of the Regulatory Flexibility Act, 5 U.S.C. 603 (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the NPRM (60 FR 39136, August 1, 1995). The Commission sought written public comments on the proposals in the NPRM, including the Initial Regulatory Flexibility Analysis. Our final analysis conforms to the RFA, as amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Subtitle II of CWAAA is "The Small Business Regulatory Enforcement Fairness Act of 1996" (SBREFA). The Commission's Final Regulatory Flexibility Analysis (FRFA) in this Report and Order is as follows:

200. *Need for and Objectives of Rules:* The Commission, in compliance with sections 251(b)(2) and 251(d)(1) of the Communications Act of 1934, as amended by the Telecommunications Act of 1996 (the Act), adopts rules and procedures intended to ensure the prompt implementation of telephone number portability with the minimum regulatory and administrative burden on telecommunications carriers. These rules are necessary to implement the

provision in the Telecommunications Act of 1996 (1996 Act) requiring local exchange carriers (LECs) to offer number portability, if technically feasible. In implementing the statute, the Commission has the responsibility to adopt rules that will implement most quickly and effectively the national telecommunications policy embodied in the Act and to promote the pro-competitive, deregulatory markets envisioned by Congress. Congress has recognized that number portability will lower barriers to entry and promote competition in the local exchange marketplace.

201. *Summary of Significant Issues Raised by the Public in Response to the IRFA:* There were no comments submitted in response to the Initial Regulatory Flexibility Analysis. The Chief Counsel for Advocacy of the United States Small Business Administration filed comments on the NPRM which generally support the actions we take in this Report and Order. However, in their general comments, some commenters suggested a course of action which may result in less of an impact on small entities. Specifically, prior to passage of the 1996 Act, some LECs asserted that the Commission should neither adopt, nor direct the adoption of, number portability without performing a thorough cost/benefit analysis. Most parties, however, now agree that the 1996 Act clearly directs the Commission to implement long-term number portability. In the Report and Order, we concluded that Congress has determined that the Commission should develop a national number portability policy and has specifically directed us to prescribe the requirements that all local exchange carriers, both incumbents and others, must meet to satisfy their statutory obligations. See 47 U.S.C. 251(b)(2), (d). Moreover, section 251(e)(1)'s assignment to the Commission of exclusive jurisdiction over that portion of the North American Numbering Plan (NANP) that pertains to the United States gives us authority over the implementation of number portability to the extent that such implementation will affect the NANP. See 47 U.S.C. 251(e)(1).

202. *Description and Estimate of Number of Small Businesses to Which Rules Will Apply:* The Regulatory Flexibility Act generally defines the term "small business" as having the same meaning as the term "small business concern" under the Small Business Act, 15 U.S.C. 632. A small business concern is one which (1) is independently owned and operated; (2) is not dominant in its field of operation;

and (3) satisfies any additional criteria established by the Small Business Administration (SBA). *Id.* According to the SBA's regulations, entities engaged in the provision of telephone service may have a maximum of 1,500 employees in order to qualify as a small business concern. 13 CFR 121.201. This standard also applies in determining whether an entity is a small business for purposes of the Regulatory Flexibility Act.

203. Our rules governing long-term number portability apply to all LECs, including incumbent LECs as well as new LEC entrants, and also apply to cellular, broadband PCS, and covered SMR providers. According to the SBA definition, incumbent LECs do not qualify as small businesses because they are dominant in their field of operation. Accordingly, we will not address the impact of these rules on incumbent LECs.

204. However, our rules may have a significant economic impact on a substantial number of small businesses insofar as they apply to telecommunications carriers other than incumbent LECs. The rules may have such an impact upon new entrant LECs, as well as cellular, broadband PCS, and covered SMR providers. Based upon data contained in the most recent census and a report by the Commission's Common Carrier Bureau, we estimate that 2,100 carriers could be affected. We have derived this estimate based on the following analysis:

205. According to the 1992 Census of Transportation, Communications, and Utilities, there were approximately 3,469 firms with under 1,000 employees operating under the Standard Industrial Classification (SIC) category 481—Telephone. See U.S. Dept. of Commerce, Bureau of the Census, *1992 Census of Transportation, Communications, and Utilities* (issued May 1995). Many of these firms are the incumbent LECs and, as noted above, would not satisfy the SBA definition of a small business because of their market dominance. There were approximately 1,350 LECs in 1995. Industry Analysis Division, FCC, *Carrier Locator: Interstate Service Providers* at Table 1 (Number of Carriers Reporting by Type of Carrier and Type of Revenue) (December 1995). Subtracting this number from the total number of firms leaves approximately 2,119 entities which potentially are small businesses which may be affected. This number contains various categories of carriers, including competitive access providers, cellular carriers, interexchange carriers, mobile service carriers, operator service providers, pay telephone operators, PCS providers,

covered SMR providers, and resellers. Some of these carriers—although not dominant—may not meet the other requirement of the definition of a small business because they are not “independently owned and operated.” See 15 U.S.C. 632. For example, a PCS provider which is affiliated with a long distance company with more than 1,000 employees would be disqualified from being considered a small business. Another example would be if a cellular provider is affiliated with a dominant LEC. Thus, a reasonable estimate of the number of “small businesses” affected by this Order would be approximately 2,100.

206. *Description of Projected Reporting, Recordkeeping and Other Compliance Requirements of the Rules:* There are several reporting requirements imposed by the Report and Order. It is likely that the entities filing the reports will require the services of persons with technical expertise to prepare the reports. First, carriers participating in a field test in the Chicago, Illinois, area are required to file with the Commission a report of their findings within 30 days after completion of the test. At this time, it is not clear how many carriers will be participating, but it is likely to include several new entrant LECs and the dominant incumbent LEC in the region. Second, after December 31, 1998, long-term number portability must be provided by LECs outside of the 100 largest MSAs within six months after a specific request by another telecommunications carrier in which the requesting carrier is operating or plans to operate. The request specifically must request long-term number portability, identify the discrete geographic area covered by the request, and provide a tentative date six or more months in the future when the carrier expects to need number portability in order to port prospective customers. Third, state regulatory commissions must file with the Commission a notification if they opt to develop a state-specific database in lieu of participating in a regional database system. Carriers that object to a state decision to opt out of the regional database system may file with the Commission a petition for relief. Fourth, the item requires any administrator selected by a state prior to the release of the Report and Order, that wishes to bid for administration of one of the regional databases, must submit a new proposal in accordance with the guidelines established by the NANC. We expect that only one entity, Lockheed Martin, will be subject to this requirement since it is the only

administrator which has been selected by a state to date. Fifth, the Report and Order requires carriers that are unable to meet the deadlines for implementing a long-term number portability solution to file with the Commission at least 60 days in advance of the deadline a petition to extend the time by which implementation in its network will be completed. Finally, we require an industry body known as the Industry Numbering Committee (INC) to file a report with the Commission on the portability of non-geographic numbers assigned to LECs within 12 months after the effective date of the Report and Order.

207. *Steps Taken to Minimize Impact on Small Entities Consistent with Stated Objectives:* The Commission's actions in this Report and Order will benefit small entities by facilitating their entry into the local exchange market. The record in this proceeding indicates that the lack of number portability would deter entry by competitive providers of local service because of the value customers place on retaining their telephone numbers. These competitive providers, many of which may be small entities, may find it easier to enter the market as a result of number portability which will eliminate this barrier to entry.

208. In general, we have attempted to keep burdens on local exchange carriers to a minimum. For example, we have adopted a phased deployment schedule which requires long-term number portability to be implemented initially in the 100 largest MSAs, and then elsewhere upon a carrier's request. The provision of currently available measures is conditioned upon request only. In addition, we have attempted to minimize the impact of our rules upon cellular, broadband PCS, and covered SMR providers, which may be small businesses, by not requiring such carriers to offer currently available number portability measures. Similarly, paging and messaging service providers, which may be small entities, are required to provide neither currently available measures nor long-term number portability under our rules. The regulatory burdens we have imposed are necessary to ensure that the public receives the benefit of the expeditious provision of service provider number portability in accordance with the statutory requirements.

V. Ordering Clauses

209. Accordingly, it is ordered that, pursuant to the authority contained in sections 1, 4(i), 4(j), 201–205, 218, 251, and 332 of the Communications Act as amended, 47 U.S.C. 151, 154(i), 154(j), 201–205, 218, 251 and 332, Part 20 of

the Commission's rules, 47 CFR part 20, is amended, and part 52 of the Commission's rules, 47 CFR part 52, is added as set forth below.

210. It is further ordered that the policies, rules, and requirements set forth herein are adopted, effective August 26, 1996 except for collections of information subject to approval by the Office of Management and Budget (OMB), which are effective December 23, 1996.

211. It is further ordered that, pursuant to the authority contained in sections 1, 4(i), 4(j), 201-205, 218, 251, and 332 of the Communications Act as amended, 47 U.S.C. 151, 154(i), 154(j), 201-205, 218, 251, and 332, a Further Notice of Proposed Rulemaking is hereby adopted.

212. It is further ordered that BellSouth's Motion to Accept Late Filed Comments is granted.

213. It is further ordered that authority is delegated to the Chief, Common Carrier Bureau, as set forth *supra* in ¶¶ 78, 79, 85, 97, and to the Chief, Wireless Telecommunications Bureau, as set forth *supra* in ¶¶ 166, 167.

List of Subjects

47 CFR Part 20

Federal Communications Commission, Local number portability, Radio, Telecommunications.

47 CFR Part 52

Federal Communications Commission, Cost recovery, Database architecture and administration, Local exchange carrier, Local number portability, Long-term database methods, Numbering, Telecommunications, Transitional methods.

Federal Communications Commission.
William F. Caton,
Acting Secretary.

Rule Changes

Parts 20 and 52 of Title 47 of the Code of Federal Regulations are amended as follows:

PART 20—COMMERCIAL MOBILE RADIO SERVICES

1. The authority citation for part 20 continues to read as follows:

Authority: Secs. 4, 303, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, and 332, unless otherwise noted.

2. Section 20.15 is amended by adding paragraph (e) to read as follows:

§ 20.15 Requirements under Title II of the Communications Act.

* * * * *

(e) For obligations of commercial mobile radio service providers to provide local number portability, see § 52.1 of this chapter.

3. A new part 52 is added to read as follows:

PART 52—NUMBERING

Subpart A—[Reserved]

Subpart B—Local Number Portability

Sec.

52.1 Definitions.

52.3 Deployment of long-term database methods for number portability by LECs.

52.5 Database architecture and administration.

52.7 Deployment of transitional measures for number portability.

52.9 Cost recovery for transitional measures for number portability.

52.11 Deployment of long-term database methods for number portability by CMRS providers.

52.12 through 52.99 [Reserved].

Appendix to Part 52—Deployment Schedule for Long-Term Database Methods for Local Number Portability

Authority: Sec. 4, 48 Stat. 1066, as amended; 47 U.S.C. 154, unless otherwise noted. Interpret or apply sec. 153, 154, 201-04, 218, 225-7, 251-2, 271, 48 Stat. 1070, as amended, 1077; 47 U.S.C. 201-04, 218, 225-7, 251-2, 271 unless otherwise noted.

Subpart A—[Reserved]

Subpart B—Local Number Portability

§ 52.1 Definitions.

As used in this subpart:

(a) The term *broadband PCS* has the same meaning as that term is defined in § 24.5 of this chapter.

(b) The term *cellular service* has the same meaning as that term is defined in § 22.99 of this chapter.

(c) The term *covered SMR* means either 800 MHz and 900 MHz SMR licensees that hold geographic area licenses or incumbent wide area SMR licensees that offer real-time, two-way switched voice service that is interconnected with the public switched network, either on a stand-alone basis or packaged with other telecommunications services. This term does not include local SMR licensees offering mainly dispatch services to specialized customers in a non-cellular system configuration, licensees offering only data, one-way, or stored voice services on an interconnected basis, or any SMR provider that is not interconnected to the public switched network.

(d) The term *database method* means a number portability method that utilizes one or more external databases for providing called party routing information.

(e) The term *downstream database* means a database owned and operated by an individual carrier for the purpose of providing number portability in conjunction with other functions and services.

(f) The term *incumbent local exchange carrier* means, with respect to an area, the local exchange carrier that:

(1) On February 8, 1996, provided telephone exchange service in such area; and

(2)(i) On February 8, 1996, was deemed to be a member of the exchange carrier association pursuant to § 69.601(b) of the Commission's regulations (47 CFR 69.601(b)); or

(ii) Is a person or entity that, on or after February 8, 1996, became a successor or assign of a member described in paragraph (f)(2)(i) of this section.

(g) The term *incumbent wide area SMR licensee* has the same meaning as that term is defined in § 20.3 of this chapter.

(h) The term *local exchange carrier* means any person that is engaged in the provision of telephone exchange service or exchange access. For purposes of this subpart, such term does not include a person insofar as such person is engaged in the provision of a commercial mobile service under 47 U.S.C. 332(c).

(i) The term *local number portability administrator (LNPA)* means an independent, non-governmental entity, not aligned with any particular telecommunications industry segment, whose duties are determined by the NANC.

(j) The term *location portability* means the ability of users of telecommunications services to retain existing telecommunications numbers without impairment of quality, reliability, or convenience when moving from one physical location to another.

(k) The term *long-term database method* means a database method that complies with the performance criteria set forth in § 52.3(a).

(l) The term *North American Numbering Council (NANC)* means an advisory committee created under the Federal Advisory Committee Act, 5 U.S.C., App (1988), to advise the Commission and to make recommendations, reached through consensus, that foster efficient and impartial number administration.

(m) The term *number portability* means the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another.

(n) The term *regional database* means an SMS database or an SMS/SCP pair that contains information necessary for carriers to provide number portability in a region as determined by the NANC.

(o) The term *service control point (SCP)* means a database in the public switched network which contains information and call processing instructions needed to process and complete a telephone call. The network switches access an SCP to obtain such information. Typically, the information contained in an SCP is obtained from the SMS.

(p) The term *service management system (SMS)* means a database or computer system not part of the public switched network that, among other things:

(1) Interconnects to an SCP and sends to that SCP the information and call processing instructions needed for a network switch to process and complete a telephone call; and

(2) Provides telecommunications carriers with the capability of entering and storing data regarding the processing and completing of a telephone call.

(q) The term *service portability* means the ability of users of telecommunications services to retain existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications service to another, without switching from one telecommunications carrier to another.

(r) The term *service provider portability* means the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one telecommunications carrier to another.

(s) The term *telecommunications* means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.

(t) The term *telecommunications carrier* means any provider of telecommunications services, except that such term does not include aggregators of telecommunications services (as defined in 47 U.S.C. 226(a)(2)).

(u) The term *telecommunications service* means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.

(v) The term *transitional measure* means a method such as Remote Call

Forwarding (RCF), Flexible Direct Inward Dialing (DID), or other comparable and technically feasible arrangement that allows one local exchange carrier to transfer telephone numbers from its network to the network of another telecommunications carrier, but does not comply with the performance criteria set forth in § 52.3(a).

§ 52.3 Deployment of long-term database methods for number portability by LECs.

(a) Subject to paragraphs (b) and (c) of this section, all local exchange carriers (LECs) must provide number portability in compliance with the following performance criteria:

(1) Supports network services, features, and capabilities existing at the time number portability is implemented, including but not limited to emergency services, CLASS features, operator and directory assistance services, and intercept capabilities;

(2) Efficiently uses numbering resources;

(3) Does not require end users to change their telecommunications numbers;

(4) Does not require telecommunications carriers to rely on databases, other network facilities, or services provided by other telecommunications carriers in order to route calls to the proper termination point;

(5) Does not result in unreasonable degradation in service quality or network reliability when implemented;

(6) Does not result in any degradation in service quality or network reliability when customers switch carriers;

(7) Does not result in a carrier having a proprietary interest;

(8) Is able to migrate to location and service portability; and

(9) Has no significant adverse impact outside the areas where number portability is deployed.

(b) All LECs must provide a long-term database method for number portability in the 100 largest Metropolitan Statistical Areas (MSAs) by December 31, 1998, in accordance with the deployment schedule set forth in the appendix to this part 52.

(c) Beginning January 1, 1999, all LECs must make a long-term database method for number portability available within six months after a specific request by another telecommunications carrier in areas in which that telecommunications carrier is operating or plans to operate.

(d) The Chief, Common Carrier Bureau, may waive or stay any of the dates in the implementation schedule, as the Chief determines is necessary to

ensure the efficient development of number portability, for a period not to exceed 9 months (*i.e.*, no later than September 30, 1999).

(e) In the event a LEC is unable to meet the Commission's deadlines for implementing a long-term database method for number portability, it may file with the Commission at least 60 days in advance of the deadline a petition to extend the time by which implementation in its network will be completed. A LEC seeking such relief must demonstrate through substantial, credible evidence the basis for its contention that it is unable to comply with the deployment schedule set forth in the appendix to this part 52. Such requests must set forth:

(1) The facts that demonstrate why the carrier is unable to meet the Commission's deployment schedule;

(2) A detailed explanation of the activities that the carrier has undertaken to meet the implementation schedule prior to requesting an extension of time;

(3) An identification of the particular switches for which the extension is requested;

(4) The time within which the carrier will complete deployment in the affected switches; and

(5) A proposed schedule with milestones for meeting the deployment date.

(f) The Chief, Common Carrier Bureau, shall monitor the progress of local exchange carriers implementing number portability, and may direct such carriers to take any actions necessary to ensure compliance with the deployment schedule set forth in the appendix to this part 52.

(g) Carriers that are members of the Illinois Local Number Portability Workshop must conduct a field test of any technically feasible long-term database method for number portability in the Chicago, Illinois, area concluding no later than August 31, 1997. The carriers participating in the test must jointly file with the Common Carrier Bureau a report of their findings within 30 days following completion of the test. The Chief, Common Carrier Bureau, shall monitor developments during the field test.

§ 52.5 Database architecture and administration.

(a) The North American Numbering Council (NANC) shall direct establishment of a nationwide system of regional SMS databases for the provision of long-term database methods for number portability.

(b) All telecommunications carriers shall have equal and open access to the regional databases.

(c) The NANC shall select a local number portability administrator(s) (LNPA(s)) to administer the regional databases within seven months of the initial meeting of the NANC.

(d) The NANC shall determine whether one or multiple administrator(s) should be selected, whether the LNPA(s) can be the same entity selected to be the North American Numbering Plan Administrator, how the LNPA(s) should be selected, the specific duties of the LNPA(s), the geographic coverage of the regional databases, the technical interoperability and operational standards, the user interface between telecommunications carriers and the LNPA(s), the network interface between the SMS and the downstream databases, and the technical specifications for the regional databases.

(e) Once the NANC has selected the LNPA(s) and determined the locations of the regional databases, it must report its decisions to the Commission.

(f) The information contained in the regional databases shall be limited to the information necessary to route telephone calls to the appropriate telecommunications carriers. The NANC shall determine what specific information is necessary.

(g) Any state may opt out of its designated regional database and implement a state-specific database. A state must notify the Common Carrier Bureau and NANC that it plans to implement a state-specific database within 60 days from the release date of the Public Notice issued by the Chief, Common Carrier Bureau, identifying the administrator selected by the NANC and the proposed locations of the regional databases. Carriers may challenge a state's decision to opt out of the regional database system by filing a petition with the Commission.

(h) Individual state databases must meet the national requirements and operational standards recommended by the NANC and adopted by the Commission. In addition, such state databases must be technically compatible with the regional system of databases and must not interfere with the scheduled implementation of the regional databases.

(i) Individual carriers may download information necessary to provide number portability from the regional databases into their own downstream databases. Individual carriers may mix information needed to provide other services or functions with the information downloaded from the regional databases at their own downstream databases. Carriers may not withhold any information necessary to provide number portability from the

regional databases on the grounds that such data has been combined with other information in its downstream database.

§ 52.7 Deployment of transitional measures for number portability.

All LECs shall provide transitional measures, which may consist of Remote Call Forwarding (RCF), Flexible Direct Inward Dialing (DID), or any other comparable and technically feasible method, as soon as reasonably possible upon receipt of a specific request from another telecommunications carrier, until such time as the LEC implements a long-term database method for number portability in that area.

§ 52.9 Cost recovery for transitional measures for number portability.

Any cost recovery mechanism for the provision of number portability pursuant to § 52.7(a), that is adopted by a state commission must not:

(a) Give one telecommunications carrier an appreciable, incremental cost advantage over another telecommunications carrier, when competing for a specific subscriber (*i.e.*, the recovery mechanism may not have a disparate effect on the incremental costs of competing carriers seeking to serve the same customer); or

(b) Have a disparate effect on the ability of competing telecommunications carriers to earn a normal return on their investment.

§ 52.11 Deployment of long-term database methods for number portability by CMRS providers.

(a) By June 30, 1999, all cellular, broadband PCS, and covered SMR providers must provide a long-term database method for number portability, including the ability to support roaming, in compliance with the performance criteria set forth in § 52.3(a).

(b) By December 31, 1998, all cellular, broadband PCS, and covered SMR providers must have the capability to obtain routing information, either by querying the appropriate database themselves or by making arrangements with other carriers that are capable of performing database queries, so that they can deliver calls from their networks to any party that has retained its number after switching from one telecommunications carrier to another.

(c) The Chief, Wireless Telecommunications Bureau, may waive or stay any of the dates in the implementation schedule, as the Chief determines is necessary to ensure the efficient development of number portability, for a period not to exceed 9 months (*i.e.*, no later than September 30, 1999, for the deadline in paragraph (b)

of this section, and no later than March 31, 2000, for the deadline in paragraph (a) of this section).

(d) In the event a carrier subject to paragraphs (a) and (b) of this section is unable to meet the Commission's deadlines for implementing a long-term number portability method, it may file with the Commission at least 60 days in advance of the deadline a petition to extend the time by which implementation in its network will be completed. A carrier seeking such relief must demonstrate through substantial, credible evidence the basis for its contention that it is unable to comply with paragraphs (a) and (b) of this section. Such requests must set forth:

(1) The facts that demonstrate why the carrier is unable to meet our deployment schedule;

(2) A detailed explanation of the activities that the carrier has undertaken to meet the implementation schedule prior to requesting an extension of time;

(3) An identification of the particular switches for which the extension is requested;

(4) The time within which the carrier will complete deployment in the affected switches; and

(5) A proposed schedule with milestones for meeting the deployment date.

(e) The Chief, Wireless Telecommunications Bureau, may establish reporting requirements in order to monitor the progress of cellular, broadband PCS, and covered SMR providers implementing number portability, and may direct such carriers to take any actions necessary to ensure compliance with this deployment schedule.

§§ 52.12 through 52.99 [Reserved]

Appendix to Part 52—Deployment Schedule for Long-Term Database Methods for Local Number Portability

Implementation must be completed by the carriers in the relevant MSAs during the periods specified below:

10/97–12/97	
Chicago, IL	3
Philadelphia, PA	4
Atlanta, GA	8
New York, NY	2
Los Angeles, CA	1
Houston, TX	7
Minneapolis, MN	12
1/98–3/98	
Detroit, MI	6
Cleveland, OH	20
Washington, DC	5
Baltimore, MD	18
Miami, FL	24
Fort Lauderdale, FL	39
Orlando, FL	40
Cincinnati, OH	30

Tampa, FL	23	Syracuse, NY	69	57. Louisville, KY	981,000
Boston, MA	9	Springfield, MA	86	58. Jacksonville, FL	972,000
Riverside, CA	10	Ventura, CA	72	59. Raleigh, NC	965,000
San Diego, CA	14	Bakersfield, CA	84	60. Austin, TX	964,000
Dallas, TX	11	Stockton, CA	94	61. Dayton, OH	956,000
St. Louis, MO	16	Vallejo, CA	99	62. West Palm Beach, FL	955,000
Phoenix, AZ	17	El Paso, TX	74	63. Richmond, VA	917,000
Seattle, WA	22	Little Rock, AR	90	64. Albany, NY	875,000
		Wichita, KS	97	65. Honolulu, HI	874,000
4/98-6/98		New Haven, CT	91	66. Greenville, SC	873,000
Indianapolis, IN	34	Omaha, NE	75	67. Birmingham, AL	872,000
Milwaukee, WI	35	Albuquerque, NM	76	68. Fresno, CA	835,000
Columbus, OH	38	Tacoma, WA	77	69. Syracuse, NY	754,000
Pittsburgh, PA	19			70. Tulsa, OK	743,000
Newark, NJ	25	Note: This Appendix A will not be published in the Code of Federal Regulations.			
Norfolk, VA	32	Appendix A—100 Largest Metropolitan Statistical Areas (MSAs) and Their Populations			
New Orleans, LA	41			71. Tucson, AZ	732,000
Charlotte, NC	43			72. Ventura, CA	703,000
Greensboro, NC	48			73. Akron, OH	677,000
Nashville, TN	51			74. El Paso, TX	665,000
Las Vegas, NV	50			75. Omaha, NE	663,000
Nassau, NY	13	1. Los Angeles, CA	9,150,000	76. Albuquerque, NM	646,000
Buffalo, NY	44	2. New York, NY	8,584,000	77. Tacoma, WA	638,000
Orange Co, CA	15	3. Chicago, IL	7,668,000	78. Scranton, PA	637,000
Oakland, CA	21	4. Philadelphia, PA	4,949,000	79. Knoxville, TN	631,000
San Francisco, CA	29	5. Washington, DC	4,474,000	80. Gary, IN	620,000
Rochester, NY	49	6. Detroit, MI	4,307,000	81. Toledo, OH	614,000
Kansas City, KS	28	7. Houston, TX	3,653,000	82. Allentown, PA	612,000
Fort Worth, TX	33	8. Atlanta, GA	3,331,000	83. Harrisburg, PA	610,000
Hartford, CT	46	9. Boston, MA*	3,211,000	84. Bakersfield, CA	609,000
Denver, CO	26	10. Riverside, CA	2,907,000	85. Youngstown, OH	604,000
Portland, OR	27	11. Dallas, TX	2,898,000	86. Springfield, MA*	584,000
		12. Minneapolis, MN	2,688,000	87. Baton Rouge, LA	558,000
7/98-9/98		13. Nassau, NY	2,651,000	88. Jersey City, NJ	552,000
Grand Rapids, MI	56	14. San Diego, CA	2,621,000	89. Wilmington, DE	539,000
Dayton, OH	61	15. Orange Co., CA	2,543,000	90. Little Rock, AR	538,000
Akron, OH	73	16. St. Louis, MO	2,536,000	91. New Haven, CT*	527,000
Gary, IN	80	17. Phoenix, AZ	2,473,000	92. Charleston, SC	522,000
Bergen, NJ	42	18. Baltimore, MD	2,458,000	93. Sarasota, FL	518,000
Middlesex, NJ	52	19. Pittsburgh, PA	2,402,000	94. Stockton, CA	518,000
Monmouth, NJ	54	20. Cleveland, OH	2,222,000	95. Ann Arbor, MI	515,000
Richmond, VA	63	21. Oakland, CA	2,182,000	96. Mobile, AL	512,000
Memphis, TN	53	22. Seattle, WA	2,180,000	97. Wichita, KS	507,000
Louisville, KY	57	23. Tampa, FL	2,157,000	98. Columbia, SC	486,000
Jacksonville, FL	58	24. Miami, FL	2,025,000	99. Vallejo, CA	483,000
Raleigh, NC	59	25. Newark, NJ	1,934,000	100. Fort Wayne, IN	469,000
West Palm Beach, FL	62	26. Denver, CO	1,796,000		
Greenville, SC	66	27. Portland, OR	1,676,000	*Population figures for New England's city and town based MSAs are for 1992, while others are for 1994.	
Honolulu, HI	65	28. Kansas City, KS	1,647,000	Note: This Appendix B will not be published in the Code of Federal Regulations.	
Providence, RI	47	29. San Francisco, CA	1,646,000	Appendix B—Description of Number Portability Methods	
Albany, NY	64	30. Cincinnati, OH	1,581,000	I. Database methods	
San Jose, CA	31	31. San Jose, CA	1,557,000	1. Location Routing Number (LRN). Under AT&T's LRN proposal, a carrier seeking to route a call to a ported number queries or "dips" an external routing database, obtains a ten-digit location routing number for the ported number, and uses that location routing number to route the call to the end office switch which serves the called party. The carrier dipping the database may be the originating carrier, the terminating carrier, or the N-1 carrier (the carrier prior to the terminating carrier). Under the LRN method, a unique location routing number is assigned to each switch. For example, a local service provider receiving a 7-digit local call, such as 887-1234, would examine the dialed number to determine if the NPA-NXX is a portable code. If so, the 7 digit dialed number would be prefixed with the NPA and a 10-digit query (e.g., 679-887-1234) would be launched to the routing database. The routing database then would return the LRN (e.g.,	
Sacramento, CA	36	32. Norfolk, VA	1,529,000		
Fresno, CA	68	33. Fort Worth, TX	1,464,000		
San Antonio, TX	37	34. Indianapolis, IN	1,462,000		
Oklahoma City, OK	55	35. Milwaukee, WI	1,456,000		
Austin, TX	60	36. Sacramento, CA	1,441,000		
Salt Lake City, UT	45	37. San Antonio, TX	1,437,000		
Tucson, AZ	71	38. Columbus, OH	1,423,000		
		39. Fort Lauderdale, FL	1,383,000		
10/98-12/98		40. Orlando, FL	1,361,000		
Toledo, OH	81	41. New Orleans, LA	1,309,000		
Youngstown, OH	85	42. Bergen, NJ	1,304,000		
Ann Arbor, MI	95	43. Charlotte, NC	1,260,000		
Fort Wayne, IN	100	44. Buffalo, NY	1,189,000		
Scranton, PA	78	45. Salt Lake City, UT	1,178,000		
Allentown, PA	82	46. Hartford, CT*	1,156,000		
Harrisburg, PA	83	47. Providence, RI*	1,131,000		
Jersey City, NJ	88	48. Greensboro, NC	1,107,000		
Wilmington, DE	89	49. Rochester, NY	1,090,000		
Birmingham, AL	67	50. Las Vegas, NV	1,076,000		
Knoxville, KY	79	51. Nashville, TN	1,070,000		
Baton Rouge, LA	87	52. Middlesex, NJ	1,069,000		
Charleston, SC	92	53. Memphis, TN	1,056,000		
Sarasota, FL	93	54. Monmouth, NJ	1,035,000		
Mobile, AL	96	55. Oklahoma City, OK	1,007,000		
Columbia, SC	98	56. Grand Rapids, MI	985,000		
Tulsa, OK	70				

679-267-0000) associated with the dialed number which the local service provider uses to route the call to the appropriate switch. The local service provider then would formulate an SS7 call set up message with a generic address parameter, along with the forward call indicator set to indicate that the query has been performed, and route the call to the local service provider's tandem for forwarding.

2. LRN is a "single-number solution" because only one number (*i.e.*, the number dialed by the calling party) is used to identify the customer in the serving switch. Each switch has one network address—the location routing number. The record and the Industry Numbering Committee (INC) indicate that LRN supports custom local area signalling services (CLASS), emergency services, and operator and directory services, but may result in some additional post-dial delay. LRN can support location and service as well as service provider portability. Finally, LRN supports wireless-wireline and wireless-wireless service provider portability.

3. *Carrier Portability Code (CPC)*. Under CPC, each local service provider within a given area would be assigned a three-digit Carrier Portability Code (CPC). The database serving that area would contain all the telephone numbers that have been transferred from one carrier to another and their corresponding CPCs. A carrier querying the database for purposes of routing a call to a customer that has transferred his or her telephone number would know from the NXX code of the dialed number that the telephone number may have been transferred to another local service provider. The carrier would query a database serving that area, which would return to the carrier a three-digit CPC corresponding to the service provider serving the dialed number. The carrier then would route the call according to the carrier portability code and the dialed NXX code. For example, an IXC delivering a call to the 301 NPA would query the database serving the 301 area code. In return, that database would transmit back to the IXC a ten-digit number consisting of the three-digit NPA replaced with the CPC for the LEC serving that customer, plus the customer's seven-digit telephone number. The IXC then would route the call to the location pre-designated by the terminating carrier based on the six-digit CPC-NXX. Similarly, carriers providing service within the area would query the same database to identify the local service provider responsible for handling specific local calls.

4. AT&T asserts that CPC is compatible with LRN by permitting adoption of switch trigger mechanisms, switch interfaces, signalling translations, and the development of an SMS to an LRN environment. CPC supports an N-1 call processing scenario, avoids routing calls through incumbent LEC networks, permits carriers to own or provide for their own routing databases, and supports vertical features. On the other hand, the CPC method essentially uses two NPA codes, and therefore precludes use of the second NPA code for other purposes. CPC supports location portability to a limited extent. It is not clear how operator services, such as busy line verification, collect calls, calling card

calls, and third-party billing, would be handled under this proposal. Routing telephone calls based on carrier portability codes likely will require, among other things, that the software be modified in each network switch located in the NPA within which this system is deployed. It also would require modification to the Local Exchange Routing Guide (LERG) on the same NPA-basis so that the LERG contains routing data based on carrier portability codes.

5. *Release-to-Pivot (RTP)*. Carriers using RTP attempt to complete all calls as they presently do to a switch that is assigned a given NPA-NXX. If the dialed number has not been ported, the call will be completed exactly as it is currently. If the dialed number has been ported from the switch (the "release" switch), the call will be released back to a previous switch (the "pivot" switch) in the call path along with rerouting information (RI). The pivot switch uses the RI to reroute the call to the new switch. For example, a switch with pivot capabilities would determine whether a particular call should proceed to a release capable switch. The pivot switch would formulate an initial address message (IAM) containing a capability indicator informing the release switch that the call can be released back to the pivot switch. Once the release switch receives the call, it would use a translation table to determine whether the called number has been ported. If it has, the switch then would formulate a release message containing a cause value (RTP) and an LRN for delivery back to the pivot switch. The LRN would be included in the release message as a redirection number. The pivot switch then would access a translation table and determine routing based on the first six digits of the LRN. A new IAM then would be formulated and the call redirected to the appropriate switch.

6. RTP must traverse the existing LEC network by means of switches equipped with release and pivot functionality and an internal database for call setup. RTP using the location routing number to route calls is a single-number solution. RTP does not involve the assignment of "pseudo numbers," which minimizes number exhaust. RTP should not interfere with emergency services or operator and directory services, but may increase call setup time and post-dial delay. RTP can support service as well as service provider portability, but it is unclear to what extent RTP can support location portability. Finally, RTP supports portability between wireless carriers, but it is unclear whether it can support wireless-wireline portability. Some parties believe that RTP is not appropriate for long-term implementation of service provider portability because of its reliance on the networks of incumbent LECs, the potential for post-dial delay, and its inefficient use of signaling links.

7. *Query on Release (QOR)*. Also known as "Look Ahead," QOR is similar to RTP in that queries are performed only for calls to ported numbers. However, QOR is different in several respects. Prior to querying a routing database, the switch from which the call originates reserves the appropriate call path through the SS7 network and attempts to

complete a call to the switch where the NPA-NXX of the dialed number resides. If the number is ported, the call is released back to a previous switch in the call path, which performs a query to determine the LRN of the new serving switch. The call then is routed to the serving switch. This method differs from RTP in that when a number has been ported from the Release switch, the previous switch in the call path will query the database to obtain the routing information instead of that information being supplied by the Release switch. In other words, the switch that redirects the call also performs the query, thus eliminating the need for the carrier to which the number was originally assigned to provide routing information. Pacific Bell indicates that QOR can support both location and service portability, since any call can be released back and routed through a non-incumbent provider's network.

8. *Local Area Number Portability (LANP)*. Under this proposal, each customer is assigned a ten-digit customer number address (CNA) which is mapped to a unique ten-digit network node address (NNA), both of which are stored in routing databases. A service provider receives the called number (the CNA), queries a routing database, translates the called number from its CNA to its associated NNA, uses the NNA to route the call, and passes the NNA to the serving end office which, based on the NNA, terminates the call to the appropriate line or trunk. Unlike LRN, which assigns a unique location routing number to each switch, LANP requires a separate NNA for each CNA. The California Local Number Portability Task Force indicates that LANP does not result in post-dial delay or require changes in the wireless networks. In addition, LANP supports service provider, service, and unrestricted location portability. Moreover, the CNA can be disassociated from the switches and moved to a common pool of numbers for reassignment. However, LANP may impact emergency services, as the information displayed at the Public Safety Answering Point (PSAP) will initially be the NNA rather than the CNA. Some parties and state commissions believe that the LANP method is not a viable option for long-term number portability because it is too complicated to implement.

9. *Non-Geographic Number (NGN)*. Under this approach, which overlays the existing LEC network, a ported subscriber is assigned a non-geographic number (NGN) and a geographic number (GN) that indicates the customer's physical location and the serving central office. If the customer moves or changes local service providers, the GN—but not the NGN—changes, similar to 800 service. When the NGN is dialed, the NGN is translated into the GN through a database query, and the call is routed based on the GN as is done today. All other calls are processed as they are currently. A database dip is required only for calls to ported numbers. Ported calls will experience longer call setup delay and post-dial delay. Emergency and operator and directory services are not affected. This approach supports service provider, service, and unlimited location portability. On the other hand, NGN strains numbering resources by forcing all ported

customers to limited non-geographic numbers, requires a nationwide cut-over, and requires an initial change of telephone numbers to obtain portability.

II. Non-database methods

1. *Remote Call Forwarding (RCF)*. RCF is an existing LEC service that redirects calls in the telephone network and can be adapted to provide a semblance of service provider number portability. If a customer transfers his or her existing telephone number from Carrier A to Carrier B, any call to that customer is routed to the central office switch operated by Carrier A that is designated by the NXX code of the customer's telephone number. Carrier A's switch routes that call to Carrier B, translating the dialed number into a number with an NXX corresponding to a switch operated by Carrier B. Carrier B then completes the routing of the call to its customer. The change in terminating carriers is transparent to the calling party. Disadvantages of RCF include the following: (1) It requires the use of two, ten-digit telephone numbers and thus strains number plan administration and contributes to area code exhaust; (2) it generally does not support several custom local area signalling services (CLASS), such as caller ID, and may degrade transmission quality, because it actually places a second call to a transparent telephone number; (3) it can handle only a limited number of calls to customers of the same competing service provider at any one time; (4) it may result in longer call set-up times; (5) it requires the use of the incumbent LEC network for routing of calls; (6) it may enable incumbents to access competitors' proprietary information; (7) it may result in more complicated resolution of customer complaints; (8) the potential for call blocking may be increased; and (9) it may impose substantial costs upon new entrants.

2. *Flexible Direct Inward Dialing (DID)*. DID works similarly to RCF, except the original service provider routes calls to the dialed number over a dedicated facility to the new service provider's switch instead of translating the dialed number to a new number. DID has many of the same limitations as RCF, although DID can process more simultaneous calls to a competing service provider.

3. *Other*. We are aware of three derivatives of RCF and DID, all of which require routing of all incoming calls to the terminating switch identified by the NXX code of the dialed phone number, and involve the loss of CLASS functionalities. Unlike RCF and DID, they use LEC tandem switches to aggregate calls to a particular competing service provider before those calls are routed to that provider. In addition, Cablevision Lightpath advocates use of Trunk Route Indexing (TRI), which it claims routes calls directly to the competitor's interconnection facilities and supports CLASS features. Finally, Directory Number Route Indexing (DNRI) is a method which first routes incoming calls to the switch to which the NPA-NXX code originally was assigned. DNRI then routes ported calls to the new service either through a direct trunk or by attaching a temporary "pseudo NPA" to the number and using a tandem, depending on availability.

Note: This Appendix C will not be published in the Code of Federal Regulations.

Appendix C—Implementation Schedule

Implementation must be completed by the carriers in the relevant MSAs during the periods specified below:

10/97-12/97

Chicago, IL	3
Philadelphia, PA	4
Atlanta, GA	8
New York, NY	2
Los Angeles, CA	1
Houston, TX	7
Minneapolis, MN	12

1/98-3/98

Detroit, MI	6
Cleveland, OH	20
Washington, DC	5
Baltimore, MD	18
Miami, FL	24
Fort Lauderdale, FL	39
Orlando, FL	40
Cincinnati, OH	30
Tampa, FL	23
Boston, MA	9
Riverside, CA	10
San Diego, CA	14
Dallas, TX	11
St. Louis, MO	16
Phoenix, AZ	17
Seattle, WA	22

4/98-6/98

Indianapolis, IN	34
Milwaukee, WI	35
Columbus, OH	38
Pittsburgh, PA	19
Newark, NJ	25
Norfolk, VA	32
New Orleans, LA	41
Charlotte, NC	43
Greensboro, NC	48
Nashville, TN	51
Las Vegas, NV	50
Nassau, NY	13
Buffalo, NY	44
Orange Co, CA	15
Oakland, CA	21
San Francisco, CA	29
Rochester, NY	49
Kansas City, KS	28
Fort Worth, TX	33
Hartford, CT	46
Denver, CO	26
Portland, OR	27

7/98-9/98

Grand Rapids, MI	56
Dayton, OH	61
Akron, OH	73
Gary, IN	80
Bergen, NJ	42
Middlesex, NJ	52
Monmouth, NJ	54
Richmond, VA	63
Memphis, TN	53
Louisville, KY	57
Jacksonville, FL	58
Raleigh, NC	59
West Palm Beach, FL	62
Greenville, SC	66
Honolulu, HI	65
Providence, RI	47
Albany, NY	64
San Jose, CA	31

Sacramento, CA	36
Fresno, CA	68
San Antonio, TX	37
Oklahoma City, OK	55
Austin, TX	60
Salt Lake City, UT	45
Tucson, AZ	71

10/98-12/98

Toledo, OH	81
Youngstown, OH	85
Ann Arbor, MI	95
Fort Wayne, IN	100
Scranton, PA	78
Allentown, PA	82
Harrisburg, PA	83
Jersey City, NJ	88
Wilmington, DE	89
Birmingham, AL	67
Knoxville, KY	79
Baton Rouge, LA	87
Charleston, SC	92
Sarasota, FL	93
Mobile, AL	96
Columbia, SC	98
Tulsa, OK	70
Syracuse, NY	69
Springfield, MA	86
Ventura, CA	72
Bakersfield, CA	84
Stockton, CA	94
Vallejo, CA	99
El Paso, TX	74
Little Rock, AR	90
Wichita, KS	97
New Haven, CT	91
Omaha, NE	75
Albuquerque, NM	76
Tacoma, WA	77

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DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Part 172

[Docket HM-216; Amdt No. 172-148]

RIN 2137-AC66

Transportation of Hazardous Materials by Rail; Miscellaneous Amendments; Response to Petitions for Reconsideration

AGENCY: Research and Special Programs Administration (RSPA), DOT.

ACTION: Final rule; Response to petitions for reconsideration.

SUMMARY: RSPA is publishing a June 28, 1996 letter in which it denied petitions for reconsideration of a provision in the June 5, 1996 final rule in this proceeding which allowed rail shippers and carriers to discontinue use of the RESIDUE placard on June 30, 1996, three months in advance of the effective date of the June 5 final rule.

DATES: *Effective date:* The effective date for the final rule published under