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FEDERAL COMMUNICATIONS COMMISSION  
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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C 20554

In the Matter of  
  
Administration of the  
North American Numbering Plan

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CC Docket No. 92-237

ORIGINAL  
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INITIAL COMMENTS OF THE  
AD HOC TELECOMMUNICATIONS USERS COMMITTEE

Economic Consultant:

Dr. Lee L. Selwyn  
Economics and Technology, Inc.  
One Washington Mall  
Boston, Mass. 02108

(617) 227-0900

James S. Blaszk, Esq.  
Gardner, Carton & Douglas  
1301 K Street, NW  
Washington, DC 20005

(202) 408-7100

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## I. SUMMARY

This Notice of Inquiry (NOI) was initiated by the Commission to "explore several long range issues related to the administration of the North American Numbering Plan (NANP)." While the NOI does not per se contemplate any immediate regulatory action, the Ad Hoc Telecommunications Users Committee ("Committee") believes that such action is required and, moreover, that it is long overdue. In a little more than 24 months, the present NANP will be expanded to permit the use of 640 additional "interchangeable" NPA codes ("INPA"). This change in the NPA code format (from NO/1X to NXX) engenders modifications to preexisting dialing patterns so that switching equipment can readily distinguish between central office (CO) codes and NPA codes.

Among the changes being recommended by Bellcore is the mandatory use of the prefix digit '1' to indicate that the immediately following 3-digit sequence is an NPA code. Adoption of this convention will require that the traditional use of the '1' prefix digit - to distinguish between a local call and a toll call - be abandoned. As a result, consumers will no longer be able to readily determine when a particular call will be subject to a toll charge, and users of multiline PBX, Centrex and other business telephone systems, such as the members of the Ad Hoc Committee, will be forced to incur substantial cost and assume an onerous administrative burden to provide for screening of individual CO and NPA codes to forestall unauthorized toll use.

In many cases, existing PBX equipment may be physically incapable of supporting these additional programming requirements, and thus may require total replacement.

Administration of the NANP has been the joint responsibility of Bellcore and the individual LECs having dominant presence in each NPA. While Bellcore assigns NPA codes and CO codes within non-geographic "Service Access Codes" (SACs) and the 809 (Caribbean) NPA, CO code assignment within all other NPAs is the responsibility of the local carrier, one that is discharged with little central planning or standardization of practices. Moreover, in making administrative and other decisions regarding the NANP, Bellcore and the LECs rarely if ever consider the costs and impacts of their actions on any other NANP users.

In a competitive telecommunications industry environment, it is no longer appropriate for one industry segment, the LECs in this case, to control and administer this vital resource. Accordingly, the Ad Hoc Committee urges the Commission to act quickly and decisively to establish a new NANPA and to provide it with a sufficient mandate and machinery to quickly address and resolve the various critical time-sensitive issues that affect the entire NANP community.

## II. INTRODUCTION

The Ad Hoc Telecommunications Users Committee ("Ad Hoc Committee" or "Committee") hereby submits its comments in response to the Commission's Notice of Inquiry, FCC 92-470 (released October 29, 1992) ("NOI" or "Notice") in the above-captioned proceeding.

This NOI has been divided into two separate Phases, both of which are addressed in these Comments. Phase I seeks comments regarding the future administration of the North American Numbering Plan ("NANP") and certain other specific numbering issues.<sup>1</sup> In Phase II, parties are requested to comment on the proposal to modify the present non-presubscribed Feature Group D (FGD) switched access dialing pattern from '10XXX' to '101XXXX' to accommodate 4-digit Carrier Identification Codes (CICs), whose use is scheduled to begin in 1993. Certain other current NANP issues are expressly excluded from this Inquiry at this time.<sup>2</sup> The Commission also notes "[a] variety of tangential issues in other proceedings ... includ[ing] matters dealing with 800 service and calling cards." While recognizing that "the issues

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1/ These are PCS numbering and Local Number Portability. NOI, paras. 40, 41.

2/ These include NOI, para. 43, Implementation of interchangeable area codes; NOI, para. 44, Allocation of interchangeable NPA codes; NOI, para. 45, Allocation of office codes; NOI, para. 47, Classification of costs for the purposes of price caps; NOI, para. 48, Allocation of service codes; and NOI, para. 49, Reporting requirements.

involved in those matters sometimes touch upon numbering issues, they will not be reargued in this proceeding."<sup>3</sup>

Without going to the merits of the various issues that have been deferred or otherwise excluded from consideration here, there can be no question but that the very existence of these enumerated issues (and others) as contested matters, and certainly their ultimate disposition, depend vitally upon the manner in which the issue of NANP Administration is resolved. The Ad Hoc Committee believes that the existing process and scope of NANP administration falls woefully short of assuring the long term efficacy and viability of this critical and unique resource. Accordingly, while we will not offer specific comments on the substance of the various issues that the Commission has expressly excluded from consideration here, we feel compelled to discuss some of them in the context of the present administrative process under which they have arisen and for whose resolution any revision to the present method of NANP administration must necessarily be directed.

### III. PHASE I: NANP ADMINISTRATION

III.1. The North American Numbering Plan is a unique and vital national and international resource whose evolution and integrity must be carefully and impartially managed.

The North American Numbering Plan is a unique resource that has contributed significantly to the development and efficiency

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<sup>3/</sup> NOI, para. 50.

of the US/Canada telecommunications network that remains the envy of the world. As the Commission has recognized,

The numbering practices used within the NANP differ from those used in most of the rest of the world in that the NANP integrates the dialing of eighteen nations. In contrast, international calls to countries not included in the NANP require the dialing of international access codes, the dialing of country codes, and the dialing of telephone numbers that differ in length from country to country. The NANP covers World Zone 1 which includes the United States, Canada, Bermuda, and most of the Caribbean. Thus, it encompasses virtually all of North America except Mexico.<sup>4</sup>

The NANP supports a consistent, uniform, and essentially seamless numbering system and dialing pattern that has, in turn, fostered the creation of a highly efficient and highly integrated North American telecommunications infrastructure. Among other things, its near-universal adoption within World Zone 1 has enabled the creation of domestic and international 800 services, has permitted the development of cross-border virtual networks, has facilitated call detail recording and billing both for common carriers and for private applications, and has provided a standard protocol for network administration and management for virtually all industry and end user participants in the North American telecommunications community. As such, the NANP has contributed significantly to the development and growth of commerce and trade throughout the region.

As the Commission has also noted, the NANP has been in place for more than forty years, and that, while its original specification in 1947 provided more than sufficient number capacity for the demands extant at that time, the relief plan that is to deal

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<sup>4</sup>/ NOI, para. 5. Emphasis supplied, footnote omitted.

with the impending NPA exhaust was defined and has been available publicly since 1962.<sup>5</sup>

The NANP was, of course, designed and implemented in an era in which the pre-divestiture AT&T Bell System controlled the overwhelming majority of the nation's (and, for that matter, the region's) telephones and telephone numbers. AT&T owned or controlled the dominant LEC ("Bell Operating Company") in every state except for Alaska and Hawaii. AT&T's then-Canadian affiliate, Bell Canada, was the dominant LEC in that country, and other US-based companies (e.g., GTE, ITT) owned and/or operated many of the telephone utilities in the Caribbean and in parts of Canada not served by Bell. There were no separate interexchange carriers, cellular carriers, radio paging carriers, enhanced services providers, or other large users of telephone numbers. There were no competitive PBX providers who would seek "Direct Inward Dialing" service with full 7-digit numbers assigned to each PBX station line to compete with LEC Centrex service. Not only were the entities with an interest in using and assigning telephone numbers a small, closely-knit group, but their overall demand for additional numbers was generally limited to access line growth. All of that, of course, has changed. There are many more industry players and their respective interests are often at odds with those of the dominant LECs who collectively still control the NANP. New technology and new applications have accelerated the demand for additional telephone numbers that far exceeds the nominal growth in LEC access line. Since the first cellular carriers were licensed in 1983, some 8.9-million

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5/ NOI, para. 11.

cellular telephones, each with its own unique NANP address, have been placed in service.<sup>6</sup> There are some 11.7-million radio pagers in use throughout the US,<sup>7</sup> and indeed many of these have more than one NANP telephone number (permitting the user to receive several different, distinctive signal patterns). Demand for Centrex- and PBX-based Direct Inward Dialing (DID) has continued to grow, and many LECs have introduced multiple number residential services that deliver distinctive ringing signals to the called party's line.<sup>8</sup>

III.1.1. The present administration of the NANP is far more fragmented and uncoordinated than the Commission appears to suspect.

Incredibly, despite its sheer longevity and the noncontroversial character of its birth, the implementation and administration of the NANP has and continues to be far more fragmented than the Commission appears to suspect. First, the NANP is anything but uniform in its application to local situations. For example, the Commission observes that "[e]ach telephone in World Zone 1 can be reached by dialing a unique ten digit number."<sup>9</sup> In

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6/ Cellular Telecommunications Industry Association News Release, September 8, 1992, p. 1.

7/ Response of Telocator to Bellcore "Proposal on the Future of Numbering in World Zone 1," April 30, 1992, p. 2.

8/ The NYNEX telephone companies, for example, offer the "Ringmate" service, designed to permit several roommates sharing an apartment, or parents and children in the same household, to use different telephone numbers and thereby receive distinctive ringing signals on incoming calls. Up to three different numbers can be assigned to the same access line. See NYT PSC No. 900, Section 2, p. 85.

9/ NOI, para. 7.

fact, this is not the case. Many telephone numbers are dialable only from within their "home" NPA or from within an even smaller geographical area. For example, many 7-digit "pay-per-call" numbers (e.g., 976-XXXX) can only be dialed from within the home area; Feature Group B (950) numbers can only be dialed from telephones served by central offices subtending an access tandem switch from which the access customer takes FGB service; the proposed use of 'N11' codes, under consideration in CC Docket 92-105,<sup>10</sup> would create an entire class of numbers whose "uniqueness" would extend only to the home area code, home LATA, home state, or perhaps at most to the home LEC. Indeed, as the Ad Hoc Committee noted in its Comments in that proceeding opposing the "local assignment" of 'N11' codes for pay-per-call services,<sup>11</sup> the very same N11 number could be assigned in different NPAs for entirely different customers and/or purposes. And the '700' Service Access Code (SAC) has creates yet another source of non-uniqueness in that the very same 10-digit 700 number can be associated with entirely different subscribers by different interexchange carriers.<sup>12</sup>

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10/ In the Matter of the Use of N11 Codes and Other Abbreviated Dialing Arrangements, Notice of Proposed Rulemaking, CC Docket 92-105, Order No. 92-203, Released May 6, 1992.

11/ Initial Comments of the Ad Hoc Telecommunications Users Committee, CC Docket 92-105, June 5, 1992, pp. 3-6.

12/ Calls placed to the 700 SAC are routed to the interexchange carrier designated by the calling party, either on a presubscription or on a 10XXX basis. Thus, the AT&T number 700-234-5678 could be assigned to John Jones in Jacksonville while the very same number 700-234-5678 could be assigned by MCI to Sam Smith in Seattle.

There is also no consistency or uniformity in the use of NXX-type central office codes within NPAs. With a few notable exceptions (e.g., '555' as the standard code for Directory Assistance and '976' as a code whose use is always limited to pay-per-call services), there is little consistency in use or application of individual CO codes.<sup>13</sup> While the use of 976 has been limited to pay-per-call, many other pay-per-call codes are assigned locally by individual LECs in certain NPAs while the same codes are being used for ordinary "POTS" lines in others.<sup>14</sup> This lack of positive recognition of codes for specific premium services creates enormous customer confusion and unwanted or unexpected charges, and poses formidable problems in administering dialing and toll restriction arrangements and in managing PBX/Centrex system operations for members of the Ad Hoc Committee and for other business and government organizations with multiple locations in different NPAs and/or operating company territories.

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13/ In fact, Bellcore's BOC Notes on the LEC Networks - 1990, p. 3.8, identifies only five (5) such "reserved" CO codes: 555, 950, 958, 959 and 976.

14/ For example, New York Telephone has assigned the following CO codes to pay-per-call services: 394, 540, 550, 810, 910, 920, 970, 976 and 977. Pacific Bell has reserved 303, 505, 844 and 976 for these services. The 844 CO code is used in approximately 47 NPAs across the country for ordinary telephone service, and appears in such communities as Dallas, Texas (214-844) and West Palm Beach, Florida (407-844). Similarly, the 394 code, which is a pay-per-call code in New York, appears in some 94 NPAs and serves such places as Chamblee, Georgia (404-394) and Seattle, Washington (206-394). Indeed, with the exception of '976', whose use for pay-per-call is explicitly reserved by Bellcore, virtually all other codes that are used for pay-per-call in at least one NPA can be found in use for POTS in other NPAs.

In addition to the absence of uniformity or consistency in code assignments and dialability, there exists substantial variation in the local and toll dialing patterns from place to place and from operating company to operating company, conditions that are likely to get worse before they get better unless some affirmative corrective and preemptive action is taken - and soon - by the Commission at the federal level. For example, in some NPAs the prefix digit '1' must be used when dialing a different NPA; in others, it is either not required or may not even be permitted. In some places, the home area code must be used when dialing a toll call within the same NPA, while in most other areas such a call would be placed on a 1+7-digit basis.

One of the largest causes of the variation in NANP implementation and the lack of standardization is the fragmentation of responsibility for NANP administration. As the Commission correctly notes, responsibility for NANP administration is distributed across a variety of countries and individual operating entities:

6. The administrator of the NANP thus administers a numbering plan that covers the United States and seventeen other countries.<sup>6/</sup> While this Commission has plenary jurisdiction over the numbering plan within the United States, most numbering plan issues have been resolved through industry negotiations and forums. Thus, Commission involvement has usually been restricted to disputes brought before the Commission for resolution.

n. 6. Three parties from Canada have filed comments. They generally support the initiation of a NOI. Unitel, comments, p 1; Cantel, comments, p 2. Telecom Canada takes no position, but indicates interest in participating in the proceedings if a NOI is issued; Telecom, comments, p 1. We note that the Canadian Department of Communications has recently formed a

Canadian Steering Committee on Numbering to address a variety of numbering issues.<sup>15</sup>

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14. Heretofore, assignments of NPA codes (including both geographic area codes and service access codes) have been made by Bellcore.<sup>20/</sup> Bellcore also assigns the office codes for 800 and 900 service. Bellcore does not assign the office codes within each geographic area code. This function was delegated by AT&T prior to divestiture to the local exchange carriers providing most of the service within each geographic area code. In most cases this is a Bell Operating Company although there are exceptions.<sup>21/</sup>

n. 20. After a decision is made to split an area code into two parts, the FCC and Bellcore have traditionally left the drawing of boundaries up to the local telephone companies and the state public utility commission. These local boundaries, particularly where a suburb wishes to continue to be included in the same area code as a metropolitan center, can be matters of intense local controversy. They also require extensive knowledge of local calling patterns and local office arrangements.

n. 21. GTE serves as administrator for area codes 808 and 813; Southern New England Telephone serves as administrator for 203, Alascom serves as administrator for 907; Cincinnati Bell for 513; Telecom Canada for 15 area codes used in Canada; and Bellcore itself serves as the administrator of 809 which covers Bermuda and the Caribbean.<sup>16</sup>

Because there is no central administration of number assignment within most NPAs, the individual LECs with NPA administrative responsibility possess - and have exercised - considerable flexibility with respect to CO code assignment. For example:

- Only a handful of CO codes are afforded standard use across all NPAs. These are generally limited to 555

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<sup>15/</sup> NOI, para. 6, footnote 6. Footnote 7 omitted.

<sup>16/</sup> NOI, para. 14, emphasis supplied.

(Directory Assistance), 950 (Feature Group B), 958 and 959 (test codes), and 976 (pay-per-call). Individual LECs may assign special functions to other CO codes but there is no requirement that this be done on a uniform basis.

- Numerous "mixed use" CO codes have been established combining POTS, cellular, paging, DID and other numbers. Opportunities for special "sent-paid" nonpresubscribed calling access to, for example, cellular and paging services, long desired by those industries, have thus been largely precluded by a lack of easily identifiable use-specific CO codes.
- Codes and numbers may be arbitrarily held back for special "premium" status involving additional charges. In some cases, LECs may offer a LATA-wide or company-wide 7-digit telephone number in conjunction with a pay-per-call type of information service access arrangement, for which a premium charge will apply.<sup>17</sup>
- There is a wide variation in dialing pattern from LEC to LEC for intra- and inter-NPA local and toll calling.
- In administering code and number assignments within individual NPAs, LECs often favor their own needs over

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<sup>17/</sup> Thus, a New York Telephone '540' "Interactive Information Network Service" access number may be dialed on a 7-digit basis from any NYT NPA in which the customer has ordered this service. PSC No. 900, Section 2, p. 47 et seq.

those of their competitors or others. Moreover, while LECs rarely impute charges for number assignments to their own services, they usually impose number use charges upon other entities. For example, LECs typically do not impute a number charge for Centrex service, whereas they do apply such charges for DID services furnished by the LEC to a user of a competitively-provided PBX. LECs may be far more willing to reserve numbers and codes for their own use, but typically resist, or impose substantial charges to satisfy, such reservation requests received from other entities and from end users.

Compounding the organizational fragmentation of NANP administration is the utter lack of any comprehensive regulatory oversight with respect to the NANP administration and decision-making processes. Major LEC decisions, such as splitting an area code, are sometimes (but not always) submitted to the state regulatory agency for approval.<sup>18</sup> LEC actions with respect to individual CO code assignments or dialing patterns are rarely if ever submitted for regulatory sanction. And, of course, any such regulatory review, if it occurs, is at the state level, so there

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<sup>18/</sup> For example, New York Telephone's 1985 split of the '212' NPA into '212' and '718' was considered by the New York Public Service Commission in Case 28482, and was approved by Order 84-5 issued March 9, 1984. The forthcoming split of the '212' NPA into '212' and '917' was heard by the PSC in Case 90-C-0347. In that situation, there was considerable opposition to the New York Telephone Company plan to place the Bronx in the new '917' code and, after hearings and settlement conferences among the various interested parties, a revised plan was adopted by the Commission in an order dated January 7, 1991.

is seldom if ever any coordination or effort to achieve consistency with practices in other jurisdictions or with any national NANP standard.

Indeed, when state regulators are called upon to act with respect to numbering issues, they have little if any guidance upon which to base their decisions. For example, while the propriety of the use of 'N11' codes for pay-per-call information service access is being considered by this Commission in CC Docket 92-105, individual state commissions are receiving and reviewing individual applications for such assignments at the local level. Several of these have already been allowed to go into effect.<sup>19</sup> State PUCs are also being asked to approve LEC plans for the 1995 implementation of the "Interchangeable NPA" ("INPA") dialing patterns for local and toll calling, and several different schemes are being proposed around the country.<sup>20</sup> In a recent action, the Delaware Public Service Commission ordered that an informal application by Diamond State Telephone Company (a Bell Atlantic company) for 7-digit intra-NPA local and toll dialing be consolidated into an ongoing general rate case proceeding in which, inter alia, the geographic scope of local

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<sup>19/</sup> For example, the Florida PSC has allowed Southern Bell to assign the '511' code to Palm Beach News, Inc. Telecommunications Reports, November 2, 1992, p. 2.

<sup>20/</sup> The NYNEX and Bell Atlantic companies favor elimination of the 1+ on all Home NPA directly dialed calls, local or toll, with the use of the 1+ being required on all inter-NPA calls. US West wants Home NPA toll calls to be dialed on an 11-digit basis, i.e., 1-HNPA-NXX-XXXX.

and toll calling is being addressed.<sup>21</sup> While the Delaware action will likely result in more intense examination of this issue than in many other jurisdictions, it will still necessarily have to be made in isolation from other states and from any uniform national standard or practice.

Continued fragmentation of NANP and NPA administration must be replaced by either a single NANP administration function embracing both NPA and CO code assignment or, at the very least, a uniform set of standards and rules must be established and enforced if LEC administration of individual geographic NPAs is to continue. We address the specific requirements for a reformed administration function later in these Comments.

III.1.2. Bellcore and the LECs have ignored cost and other impacts of their respective NANP administrative decisions on non-LEC entities.

Virtually every event associated with the NANP structure imposes costs and various operational and administrative burdens upon a broad range of NANP users. However, in carrying out their respective NANPA functions, Bellcore and the LECs have largely limited their concern with and consideration of costs to those that will be incurred by LECs for reprogramming central office switches and for revision code and routing tables. Bellcore and the individual RBOCs and other LECs charged with NPA CO code administration have generally ignored the often substantial costs

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21/ In the Matter of the Proposal of the Diamond State Telephone Company to Alter the Dialing Plan for Toll Calls within the State of Delaware, Delaware PSC Docket No. 92-95, Order No. 3541, issued December 8, 1992.

that its policies may impose upon non-LEC parties - LEC customers and competitors as well. The Commission has clearly recognized the importance of cost and other implementation issues within the NANP administration process:

Many numbering plan issues predictably take a long time to resolve. It takes years to design switches and software to accommodate a nationwide change in the numbering plan. Adequate long range planning is essential to minimize the investment costs needed to make changes. From this standpoint, the administration of the numbering plan by the Bell System and, subsequently, Bellcore, seems to have served the nation well. For example, the concept of interchangeable codes and the basic plans to make that change were laid out as early as 1962 - many years before their implementation.<sup>22</sup>

Unfortunately, the costs to which the Commission refers and which Bellcore appears to have considered in establishing NANP policies and deciding upon specific numbering plan revisions are far too limited in their overall scope. Costs in this context must be viewed far more broadly than Bellcore or the dominant LECs have done under their custodianship of the NANP. For example, whenever the NPA is changed, cellular carriers are required to reprogram individual cellular mobile telephone sets. Business telecommunications managers are required to purchase software upgrades or otherwise modify or reprogram PBXs to accommodate new dialing patterns. Users of automatic dialing devices, such as point-of-sale terminals, burglar/fire alarms, and any number of other applications, are similarly required to manually and individually reprogram their equipment with new NPA codes and/or dialing patterns. Businesses in general must reprint stationery with new telephone numbers and incur other costs and/or business

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<sup>22/</sup> NOI, para. 24, footnote omitted.

losses to the extent that calling them may become more difficult. Bellcore and the LECs have been oblivious to the impact of their NANP actions on others;<sup>23</sup> a neutral administrative body will be far better equipped to consider and give weight to all relevant cost impacts, whether incurred by LECs or by other NANP users. These costs and implementation impacts are just as relevant as the costs that are internalized to the LECs; they are entitled to be considered and given weight in any NANP decision. Yet because the BOCs pay none of these "external" costs and incur none of the burdens, Bellcore has no economic incentive to factor them into its decisionmaking process. Clearly, the FCC must require that such non-LEC costs be considered, and must establish an administrative and decisionmaking process capable of accomplishing that result.

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23/ In a billing insert being distributed this month (December, 1992) to its customers, New England Telephone seeks to portray the forthcoming elimination of the 1+ prefix on home NPA toll calls as a simplification: "Starting soon in selected areas of New England, you will only have to dial seven digits when making a directly dialed call within the same area code. It will not matter if it is a toll call; there will be no need to dial the '1'. ... In the past, some of you have been asked to dial more digits to complete a directly dialed call (in situations that involve updating our central offices and introducing new area codes) but now we're asking you to dial less!" According to the document, the new dialing patterns will be phased in on an exchange-by-exchange basis across the five-state NET service area beginning in February 1993 and extending through 1994. NET's bill insert does not discuss the possibility of unexpected toll charges or the additional steps that PBX users will be required to take to protect themselves against unauthorized toll use, nor does it acknowledge the fact that the gradual roll-out of the new dialing pattern will only add to the difficulty for multi-location PBX users.

III.2. Formidable administrative and operational problems are raised by the forthcoming implementation of "interchangeable" NPA codes which have been ignored by the Bellcore NANP Administrator.

While the various problems and shortcomings of existing NANP administration have persisted for some time, their importance is elevated by the impending revisions of the NANP to accommodate the assignment of NXX-type interchangeable NPA codes. Some background on the source and nature of these problems will be helpful in the Commission's understanding of this issue.

III.2.1. The original design of the NANP permitted the '1+' prefix to be used to distinguish local calls from those subject to toll rate treatment.

As the Commission correctly notes, the initial design of the NANP provided a simple means for the local telephone company to determine whether a customer had dialed a local 7-digit number or a 10-digit number involving an area code:

Traditionally, the format of the office code was NNX (using the previous notation). For the same reason as with area codes, the first digit could not be 0 or 1. In contrast to area codes where the second digit was always 0 or 1, the second digit of an office code was never 0 or 1. From a practical standpoint, this provided a simple way to distinguish between area codes and office codes: a telephone switch, by simply examining the second digit dialed, could identify the number being called as either beginning with an area code or a local number.<sup>24</sup>

With this format, there was no need to require the use of a prefix digit (e.g., a '1') to identify a call as involving an area code. Accordingly, many (but by no means all) LECs adopted the prefix '1' convention as a toll access digit, and required

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24/ NOI, para. 10. Emphasis supplied.

that it precede all toll calls. This use of the prefix '1' has provided a convenient means for distinguishing between a local and a toll call, and there are in fact several important reasons why a convenient means of identifying toll calls is and continues to be important. First, the ability to identify a given call as toll provided the consumer with the ability to avoid unexpected or inadvertent toll charges. It also provided a convenient device by which PBX and other multiline telephone system users could implement "toll restriction" to prevent callers from placing unauthorized toll calls. This function could be easily accomplished by programming (or in the pre-electronic days by hard-wiring) the PBX switch to screen for the initial '1' (and for '0', to prevent operator access) and to divert such call attempts to the PBX attendant or to a "fast busy" tone. Finally, because LECs do not generally offer interexchange carrier presubscription on intraLATA toll calls, identification of a call as toll provided users with the ability to select an alternative (non-LEC) carrier for such calls in the interstate jurisdiction or in those state jurisdictions in which intraLATA toll competition has been authorized.<sup>25</sup>

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25/ Elimination of the 1+ toll call identifier would clearly benefit the LECs and disadvantage their IXC competitors. If a consumer does not know whether a given call is subject to local or toll rate treatment by the LEC, he may be unable to readily determine whether the call would be less expensive if placed using the LEC or (on a 10XXX basis) using a competing IXC service. If the call is subject to local rate treatment by the LEC but the user (inadvertently) routes it via an IXC, it would likely be billed at the IXC's toll rate. Without 1+, users risk paying higher charges for some calls, and would thus be less likely to present traffic to the IXCs even in those cases where the IXC would be the economic choice.

The "1+" convention was easy to understand and simple for consumers and PBX managers to implement and administer; there was no requirement for screening on individual CO codes, since all local calls would be dialed without a prefix '1', whereas toll calls would always require the use of this prefix digit.

Although toll charges would often apply to calls to distant points within the calling party's home NPA, in the early years of the NANP implementation calls that were not subject to a toll charge almost never required the use of an area code even if the called number was itself located in a different NPA.<sup>26</sup> This arrangement was accomplished by "protecting" central office codes in one NPA from reuse in the adjacent NPA. As the demand for numbers increased, it was no longer practical to "protect" codes that could otherwise be reused, and the use of the area code for inter-NPA local calls became mandatory in many localities. In addition, since the late 1970s a number of "area code splits" were required in large metropolitan areas to accommodate the growing demand for telephone numbers. New York and Los Angeles, in fact, experienced two such splits each;<sup>27</sup> other metropolitan regions in which new area codes were created include Chicago, San Francisco, Boston, northern New Jersey, and Anaheim. The elim-

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26/ For example, prior to October 1, 1990, local calls from telephones in the '202' area code (Washington, DC) could be placed to points in northern Virginia (NPA 703) and suburban Maryland (NPA 301) on a 7-digit basis.

27/ There are three NPAs assigned to New York City (212, 718 and 917), and all or part of six NPAs comprise the New York Metro LATA (212, 718, 917, 516, 914 and 203). The Los Angeles Consolidated Metropolitan Statistical Area includes the counties of Los Angeles, Orange and Riverside, and is served by six NPAs: 213, 818, 310, 714, 805, and 909.

ination of protected codes (as in the Washington, DC area) and/or the split of an area code (as in Los Angeles) effectively eradicated any remaining association of the requirement to dial an area code with the placing of a toll call.

It was at about that same time that any remaining uniformity in the use of the '1+' prefix for toll calling become seriously eroded. At the time of the first New York City area code split, New York Telephone required the '1+' prefix on all local and toll calls involving an area code originated from points within New York City.<sup>28</sup> However, the '1+' prefix is not required on inter-NPA local calls within the Washington, DC metropolitan area, but is required on inter-NPA toll calls placed from these same localities. In most jurisdictions, the '1+' prefix is currently required for all home NPA toll calls (to distinguish them from home NPA local calls) and in some cases may even be required for certain local calls as well, particularly in situations in which some sort of optional local calling area or extended calling area service is involved.<sup>29</sup>

Beginning in about 1980, LECs operating in several highly congested NPAs (e.g., New York, Los Angeles, Washington)

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28/ Significantly, inter-NPA calls originated from suburban exchanges in the 516 and 914 NPAs, local or toll, were to be dialed on a 10-digit basis, i.e., without a '1+'.

29/ For example, subscribers in certain New England Telephone Massachusetts exchanges are offered optional local calling services ("Metropolitan Service" or "Circle Calling Service") whereby calls that are normally subject to toll charges are subject to flat-rate local rate treatment. However, despite their rate treatment, customers are still required to dial the 1+ toll access prefix for such calls.

initiated the use of "interchangeable" central office codes, so called because they could have a '0' or a '1' as the second digit and therefore could be used "interchangeably" as both central office codes and area codes. For example, 408 is used as a central office code in downtown Washington, DC, and is also the area code for San Jose, California. In order for the local switch to determine whether, for example, a Washington, DC caller was dialing 408 as a local number or was instead placing a call to San Jose, C&P Telephone Company requires the use of the 1+ prefix on the 408 NPA (San Jose) call. In 1995, the use of interchangeable CO/NPA codes will be made more general, in that NPA codes will no longer be limited to those of the N0/1X format, but can have any number 0-9 as the middle digit. Thus, whereas the mandatory use of the 1+ prefix to identify an area code has been required, thus far, only for those NPAs in which inter-changeable CO codes have been established, after 1995 the 1+ prefix will, under the present Bellcore specification,<sup>30</sup> become mandatory on all area code calls from all NPAs in the NANP.

The Commission notes that "[e]xtra digits dialed at the start of a call (for example, the "0" to indicate that operator assistance is desired) are called prefixes and are not considered part of the numbering plan."<sup>31</sup> However, for NPAs with interchangeable CO codes and for all NPAs after 1995 the initial digit

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30/ Bellcore, "Proposal on the Future of Numbering in World Zone 1" issued January 6, 1992.

31/ Note 8.

'1' will no longer be merely a prefix; for all practical purposes it will become part of the area code itself.<sup>32</sup>

III.2.2. Although not contemplated within the Bellcore INPA specification, the continued use of the 1+ prefix to distinguish between toll and local calls may still be possible and would certainly be desirable.

Under the "pure" Bellcore specification for the use of interchangeable NPA codes, the 1+ prefix can no longer take on any role as a toll/local identifier, since the 1+ prefix will always be required on (local or toll) inter-NPA calls and can never be used on (local or toll) intra-NPA calls.<sup>33</sup> That restriction introduces a number of serious problems and concerns.

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32/ The rule regarding the use of '1' within the NANP will then become largely (but not entirely) analogous to the use of the '0' prefix in most countries outside of the NANP - to identify the immediately following digits as an area code rather than a central office code. Thus, a caller in central London (area code '71' in the UK numbering plan) calls another central London number on a 7-digit basis. Calls to numbers in the outer parts of the London area (area code '81') require the sequence 081-NXX-XXXX. In the UK and in most other non-NANP countries, the '0' is also used as an access digit for international calls (from the UK, the IDDD access code is '010'). In the NANP, the 1+ is not used for IDDD access; instead the sequences '011' for direct dialed calls and '01' for operator-assisted calls are utilized. The potential lack of conformity between the NANP and the dialing patterns in other countries with respect to international calling may someday prove to be a problem as well, and may subject NANP users to yet another major change in dialing pattern before the end of this decade.

33/ So-called '0+' (operator-assisted or calling card) calls will generally require the full 11-digit dialing pattern following INPA implementation. The Bellcore specification itself has a clear inconsistency in the treatment of home NPA toll calls.