

B. TECHNICAL AND ADMINISTRATIVE IMPLEMENTATION ISSUES

1. Technical Issues: EDR, 1AESS Switches, Rate Centers, And "Process Flows"

*(a) The Commission Should Mandate That All Carriers
Participating In LNP In A TBNP Area Implement Efficient
Data Representation*

The most important unresolved issue concerning TBNP implementation is absolutely essential to control the impact of TBNP on the LNP infrastructure. That issue is whether Efficient Data Representation ("EDR") should be mandated for all service providers. SBC believes that EDR is essential to protect the LNP infrastructure, and it urges the Commission to mandate that all LNP-capable carriers implement EDR as part of TBNP.

TBNP poses two major impacts on the existing LNP infrastructure. The first is the provisioning throughput from the Number Portability Administration Center ("NPAC") in each region to the regional carriers. The second is the strain that TBNP may place on some carriers' network database capacity.

With the existing LNP infrastructure, every telephone number that is "ported" (whether due to a customer changing service providers or TBNP), needs to be placed into the LNP databases – the NPAC and individual carriers' signaling network Serving Control Points ("SCPs") or "Signaling Transfer Points ("STPs"). To get these records into these databases, they must be processed. The current LNP infrastructure requires that every ported telephone number be processed as an individual record.¹⁴⁹

The LNP network was designed to ensure that all carriers are operating with the same LNP records to ensure calls to the same telephone number are terminated at the same

¹⁴⁹ Although some vendors claim that they support EDR, their form of EDR is limited to porting up to 1,000 consecutive numbers in a single transaction, but the numbers still must be processed as 1,000 individual records.

location from all carriers. To accomplish this goal, the system requires that all carriers (SCPs/STPs) process all records associated with a service order before the order becomes effective. Because all carriers are restricted from using any numbers in the ported block until every single carrier processes all the records in the order, the transaction actually cannot be completed until the carrier with the *slowest network* completes processing. This is often referred to as the "slow horse" phenomenon, because the rate of processing of the slowest carrier determines the throughput rate for the entire industry.

Just as all carriers must process all records, all carriers must have sufficient capacity in their STPs/SCPs to store *every* record entered into the NPAC for their region. For routing purposes, carriers need to store all ported numbers, not just their own ported numbers. This makes the entire LNP infrastructure vulnerable to its weakest link: if one carrier's SCP/STP reaches capacity, no additional porting transactions are possible for the entire network.

The industry developed EDR to alleviate the problems caused by porting high-volume, consecutive ranges of telephone numbers. Under EDR, a block of 1,000 numbers would be compressed to allow processing and storage in databases as a single record, with one additional record required for each "contaminated" number within that block.¹⁵⁰ However, the industry did not mandate that all carriers implement EDR. The result is that one carrier could upgrade its systems to process and store records efficiently using EDR, and substantially cut down on the amount of storage in its own network. However, if any *one* carrier in that region did not implement EDR, it would require that all telephone numbers in a thousands block be ported individually to that carrier. The carrier that made the investment, and all other carriers in that

region, still would be prohibited from using the thousands block until the non-EDR carrier completed processing all the records. Moreover, if any *one* carrier miscalculated its capacity requirements and ran out of capacity, the entire LNP infrastructure could crash, prohibiting any further porting altogether until that carrier installed sufficient additional capacity.

Obviously, if TBNP is to have any meaningful impact, a large number of thousands blocks would need to be ported. A significant number of blocks porting at 1,000 records reach (due to the refusal by any one carrier to implement EDR) could cause significant processing delays for all carriers in the entire region. All porting transactions would be delayed equally – service orders for competitive porting of working telephone numbers (with increased potential for out-of-service situations) would be as delayed as service orders to port thousands blocks.

Thus, SBC believes it is essential that all carriers be required to implement EDR, and it urges the Commission to mandate EDR for all LNP-capable carriers if it orders number pooling. To ensure that EDR is implemented correctly, the Commission should specify the following requirements for EDR and mandate that all carriers follow these requirements:

- One request to the NPAC with 1,000 consecutive numbers (K-block) ranging from X000-X999 (multiple of these K-blocks could be included in one service order).
- NPAC storage of one record to represent that K-block (compression technique is non-optional).
- NPAC broadcast of the K-block as a “compressed” record (non-optional).

¹⁵⁰ Thus, if a block of 1,000 numbers had ten percent contamination (100 numbers), there would be 101 total number of records processed and stored in the LNP databases – one for the block of 1,000 numbers, and 100 for the “contaminated” numbers.

(b) 1AESS Switches Should Be Excluded From TBNP

Lucent Technologies ("Lucent"), the manufacturer of the 1AESS switch, recently announced that it is phasing out its 1AESS product support and plans no further software releases. Lucent has informed SBC that it has issued its last software update (update 1AE13.04) for the 1AESS switch, and that it intends to discontinue support for this software update on January 1, 2000. Further software upgrades would be necessary to make the 1AESS switch TBNP capable, and if Lucent does not provide the necessary upgrade, 1AESS switches could not be used for number portability. Accordingly, SBC requests that the Commission exempt 1AESS switches from TBNP requirements.

Excluding 1AESS switches should not be a significant impediment to TBNP in the regions where SBC telephone companies serve as incumbent local exchange carriers. SBC estimates that it would have no more than 64 1AESS switches in operation in the largest 100 MSAs when TBNP would be implemented. SBC currently plans to gradually replace these 1AESS switches over the next several years.

(c) TBNP Should Only Be Permitted in "Incumbent" Rate Centers

Inconsistent rate centers ("IRCs") create tremendous problems with the existing LNP systems and architecture, as SBC explained in its comments on the NANC NRO Report.¹⁵¹ The same problems exist with TBNP, only worse, because every IRC could create another "pool" of numbers, and demand NXX codes to stock those pools. To the extent that the Commission does not make clear that TBNP is prohibited for IRCs, some carriers may attempt to create separate "pools" using IRCs. Out of an abundance of caution, then, SBC encourages the

¹⁵¹ See *SBC NRO Report Comments*, *supra* note 2, at 30-32.

Commission to make clear in its order that TBNP will be implemented only in existing industry standard, or “incumbent,” rate centers.

(d) The NANC Should Be Directed To Develop “Process Flows” For TBNP, Using T1S1.6 Requirements, Mandatory EDR, A Maximum Ten Percent Contamination Rate, and Industry Standard Rate Centers

The NANC created “process flows” for LNP, based on technical standards, which became the “bible” for carriers and LNP implementation groups throughout the nation. These process flows were invaluable in resolving many specific implementation issues as they arose, and they substantially aided the implementation of LNP throughout the country. SBC believes that similar “process flows” could be useful in implementing TBNP. Accordingly, SBC recommends that the Commission direct the NANC to develop TBNP process flows. The process flows should be based on the existing T1S1.6 standards, but should also include mandatory EDR, a “contamination” rate of ten percent or less, and pooling only in industry standard rate centers.

2. Administration Issues: Pooling Administrator Selection And The Guidelines

(a) The Commission Should Accept the NANC’s Recommendation Regarding Selection of the Thousands Block Number Pooling Administrator

SBC supports the NANC’s recommendation that Lockheed Martin be selected to serve as the thousands block pooling administrator (“TBNPA”). An issues management group of the NANC, which SBC was participated in, extensively reviewed of Lockheed Martin’s proposals to serve as the TBNPA, and the working group ultimately recommended that Lockheed Martin be selected as the TBNPA. The NANC adopted the IMG recommendation at its July meeting, and SBC recommends that the Commission adopt the NANC’s recommendation.

SBC supports Lockheed Martin serving in this capacity only because it believes that having the same entity serve as NANPA and TBNPA would result in substantially lower TBNPA costs (and, thereby, substantially lower TBNP implementation costs). There are many synergies between CO code administration and TBNP administration, and these synergies should result in substantial cost savings for both administration functions. For example, many support systems and personnel could be the same for both NANPA and TBNPA. Computer storage databases could share the same systems software and storage capacities. The same person could serve the function of assigning NXX codes and thousands blocks in an area, and thereby avoid any problems with assigning NXX codes to replenish pools. Having the same company perform both functions avoids interfaces that otherwise would need to be established between the separate administrators, which can only increase costs and add delays in the assignment of resources.

(b) The Thousand Block Pooling Administration Guidelines

SBC generally supports the Thousands Block Pooling Administration Guidelines developed by the INC.¹⁵² However, there is one provision in these guidelines that can and should be improved. As the NPRM notes, the guidelines currently permit carriers to maintain a nine month inventory of thousands blocks.¹⁵³ SBC believes that nine months is excessive, and it recommends that inventory period be shorted to six months. With that change, the Commission should endorse the Thousand Block Pooling Guidelines. As with the Central Office Code Administration Guidelines, the Commission should promulgate a regulation requiring that all TBNP-carriers comply with the guidelines, to enhance compliance with and improve enforceability of the standards in the guidelines.

¹⁵² *Thousand Block Pooling Guidelines*, *supra* note 97, at § 8.1.

¹⁵³ *See NPRM* at ¶ 192.

*(e) The "Contamination Threshold" for Reclaimed Blocks
Should Not Exceed Ten Percent*

The Commission should not change the ten percent "contamination threshold" established in the INC Thousands Block Number Pooling Administration Guidelines. The NPRM questions whether the contamination threshold for reclaimed thousands blocks should be changed to 25 percent, or whether different thresholds should be set for different industry segments.¹⁵⁴

As the NPRM notes, the NANC and the INC have recommended the ten percent contamination threshold.¹⁵⁵ They did so for good reasons. With EDR, a ten percent contamination threshold requires 101 porting transactions – one for the block of 1,000 numbers, and 100 for contaminated numbers, or the "exceptions." With a 25 percent contamination level, that number increases to 251 records – one for the block, and 250 for the exceptions. The result is an increase of 2.5 *times* the number of total porting transactions required – which creates 2.5 *times* the potential for "slow horse" processing problems and 2.5 *times* more capacity that cannot be used to port numbers for competitive purposes. Moreover, the Commission should reject MediaOne's argument for different contamination thresholds for different industry segments,¹⁵⁶ as different rates for different industry segments would not be competitively neutral.

C. TBNP IMPLEMENTATION TIMETABLE AND DEPLOYMENT ISSUES

1. The TBNP Implementation Period Should Be 12 To 15 Months

The NANC NRO Report estimated that TBNP could be implemented within 10 to 19 months from the date of a regulatory mandate. As the NPRM recognizes, much must be

¹⁵⁴ See NPRM at ¶¶ 187-89.

¹⁵⁵ See *id.* at ¶ 187.

¹⁵⁶ See NPRM at ¶ 189.

completed in that period – administration guidelines must be finalized;¹⁵⁷ selection of a TBNP administrator (“TBNPA”); development and deployment of TBNPA systems; selection and implementation of a pooling deployment method (in particular, EDR); development, implementation, and testing of NPAC Release 3.0; development of carriers’ switch requirements and implementation of modifications; development and implementation of modifications to carriers’ LSMSs and STPs/SCPs; development and implementation of modifications to service order administration systems; and development and implementation of modifications to carriers’ operational support systems.¹⁵⁸

It should be obvious from this list that number pooling implementation will require a tremendous amount of time and effort. In its comments on the NANC NRO Report, SBC stressed that the 10 to 19 month estimate was “extremely aggressive,” and the industry might not be able to meet it.¹⁵⁹ However, progress has been made on many items since briefing was held on the NANC NRO report, and, due to these developments, SBC believes that, with appropriate pressure from the Commission on vendors to develop and deploy network and system upgrades, SBC wireline companies could begin rollout of number pooling 12 to 15 months after a regulatory mandate.

It would be imprudent to attempt to implement TBNP in a shorter period. As SBC explained in its comments on the NANC NRO Report, the requirements for mandatory EDR have not yet been completed, which switch and system vendors require in order to develop upgrades. Moreover, the current Statement of Work for NPAC Release 3.0 does not include

¹⁵⁷ The *NPRM* correctly notes that the guidelines are “largely completed.” *NPRM* at ¶ 156. However, several issues raised in this proceeding would require modifications to the guidelines, and these modifications would have to be completed before rollout of TBNP.

¹⁵⁸ See *NPRM* at ¶¶ 157-58.

mandatory EDR, and that would need to be modified as well. Thus, SBC recommends that the Commission adopt a 12 to 15 month implementation period.

With respect to wireless carriers, the NANC LNPA working group extensively studied possible timetables for wireless participation in TBNP. This group concluded that wireless TBNP could not be implemented in any meaningful fashion before November, 2002. The Commission should accept the NANC recommendation, and, to the extent that it orders wireless carriers to participate in number pooling, it should not require that they do so before November, 2002.

2. The Commission Should Order States To Implement Area Code Relief During TBNP Implementation And Rollout

It is critical that during the implementation and rollout phases of TBNP that the Commission and state commissions continue to ensure an adequate supply of telephone numbers. As the NPRM recognizes, the consideration and adoption of national numbering optimization policies “does not eliminate the need for states to continue to implement area code relief in those areas that are approaching depletion.”¹⁶⁰ However, the mere *issuance* of the NPRM already has led a couple of states to consider delaying area code relief in the hopes that relief might be delayed by the Commission’s actions in this proceeding. There thus is a risk that some state commissions could delay area code relief until TBNP is implemented and deployed. This, in turn, could cause serious and substantial constraints on the ability of carriers to enter new markets and provide competing services.

Adopting the changes in area code relief policies proposed in Section VI below would make it easier for state commissions to make these difficult area code relief decisions.

¹⁵⁹ *SBC NRO Report Comments, supra* note 2, at 13.

However, there still may be situations where a state commission attempts to delay relief. Accordingly, SBC recommends that the Commission direct state commissions to implement area code relief before the exhaust date set in the 1999 COCUS for all area codes that are projected to exhaust before implementation and deployment of TBNP. Any carrier should be permitted to petition the Commission to reassume responsibility for ordering relief in a specific area code, if the state commission did not provide relief in the required timeframe.

3. All TBNP-Eligible Carriers Should Implement Sequential Number Assignment

The NPRM correctly recognizes that sequential number assignment might serve a useful purpose, given the substantial period of time to implement and deploy TBNP.¹⁶¹ Sequential number assignment would protect a maximum number of thousands blocks from undue contamination, and therefore, if implemented by all carriers participating in TBNP, could increase the number of thousands blocks donated to TBNP and increase TBNP benefits.

Accordingly, SBC recommends that the Commission require sequential number assignment in a manner similar to the plan developed by an industry group and filed with the Missouri Public Utility Commission.¹⁶² The Missouri plan requires carriers to completely assign use thousands blocks before they assign numbers out of additional thousands blocks. The Missouri plan recommends that carriers use the 0, 1, 8 and 9 blocks for residential services, and the 2, 3, 4, 5, 6 and 7 blocks for business services, which represents a fair and equitable balance between optimization needs and market demands. SBC recommends that INC expeditiously

¹⁶⁰ NPRM at ¶ 12.

¹⁶¹ See NPRM at ¶¶ 190-91.

¹⁶² *In the Matter of the Implementation of Number Conservation Methods in the St. Louis, Missouri Area*, Report on Sequential Number Assignment, Case No. TO-99-14 (filed Oct. 22, 1998).

develop a sequential number assignment plan similar to the Missouri plan, which would serve as the national sequential number assignment standard.

The Commission should order that all TBNP-eligible carriers comply with this sequential number assignment requirement as soon as the INC has completed developing its industry standard. After utilization surveys determine which carriers would be required to implement TBNP, only TBNP-participating carriers should be required to continue to comply with the sequential number assignment requirement.

4. Utilization Surveys For TBNP Participation Should Be Conducted Within 60 Days After The Commission's Decision

In order to use a utilization threshold to determine which carriers would be required to implement TBNP, the Commission needs to determine when those surveys would be conducted. The surveys need to be held in a manner so that they do not delay implementation of TBNP, thus they should be completed before carriers have to make the decision to purchase necessary operational support systems and switch upgrades. SBC recommends that the utilization surveys be conducted within 60 days after the Commission issues its order. Carriers are on notice that the Commission is considering a utilization threshold, and they have the incentive to act now to improve their utilization.

5. State Commissions Should Be Delegated Authority To Select The Areas Within The Largest 100 MSAs Where TBNP Will Be Implemented, Consistent With The Criteria Adopted In The NANC NRO Report

The NPRM seeks comment on the appropriate deployment methodology for TBNP.¹⁶³ SBC recommends that the Commission establish a phased TBNP deployment

¹⁶³ See NPRM at ¶ 154.

schedule beginning with the largest MSAs, as it did with LNP deployment.¹⁶⁴ Because TBNP relies on the LNP infrastructure, TBNP deployment, like LNP deployment, should be at the rate center/switch level.

However, TBNP may not be particularly effective or efficient in all rate centers and switches within the largest 100 MSAs. As suggested in the NANC NRO Report, TBNP would not be as effective in these areas due to the low volume of competitive entry.¹⁶⁵ Not all rate centers will have sufficient competitive entry to justify TBNP. For example, the El Paso and Tulsa MSAs, which are within the top 100 MSAs, have only two and three competitive local exchange carriers, respectively, in those markets.¹⁶⁶ Even area codes that have a substantial number of competitors are likely to have some rate centers that have little, or no, competitive entry and that therefore would not be cost-effective locations to deploy TBNP. In addition, TBNP should not be implemented in rate centers served by 1AESS switches, due to switch limitations and vendor concerns.¹⁶⁷ In other areas, area code exhaust may be so imminent that TBNP would not provide much value in delaying the life of the existing area code. Thus, TBNP cannot and should not be required in all rate centers or switches within the largest 100 MSAs.

SBC thus recommends that state commissions select the rate centers/switches within the top 100 MSAs where TBNP is to be deployed. State commissions have greater exposure and knowledge of local conditions and can probably better decide the individual rate centers and switches where TBNP should be implemented.¹⁶⁸ States should be directed to select

¹⁶⁴ See *Local Number Portability 1st Report & Order*, at ¶ 82.

¹⁶⁵ *NANC NRO Report*, at § 5.10.2.

¹⁶⁶ See Section II.A, *supra*.

¹⁶⁷ See Section V.B.1, *supra*.

¹⁶⁸ See *NPRM* at ¶ 147.

only those rate centers/switches where the benefits of TBNP exceed the costs, under detailed criteria established by the Commission, and the Commission should develop its criteria based on the criteria set forth in the NANC NRO Report.¹⁶⁹

SBC believes that this approach represents a sound and reasoned method to implement TBNP, one that is consistent with the deployment of LNP. With LNP, the Commission recognized not all switches needed to be converted to LNP, and it required that competitive carriers request that LNP be implemented in individual switches.¹⁷⁰ This approach fostered efficient deployment of LNP, reduced overall societal costs and lessened demands on switch vendors. With TBNP, carriers may not have the same incentive to request implementation that they had with LNP, and therefore this decision should be made by state commissions. However, the basic premise underlying the decision – examination and selection of deployment by rate center and switch – should also be used in determining where to deploy TBNP in order to minimize societal costs.

D. THE COMMISSION SHOULD PERMIT FULL RECOVERY OF TBNP IMPLEMENTATION COSTS

Because TBNP is such an expensive option to implement, it is absolutely essential that the Commission provide an adequate method to all carriers to recover all of the implementation costs associated with TBNP. Of the cost recovery issues raised in the NPRM, three deserve particular attention.¹⁷¹

¹⁶⁹ See NPRM at ¶ 148 & n. 263, citing NANC NRO Report, at § 5.10.2.

¹⁷⁰ Telephone Number Portability, First Memorandum Opinion and Order on Reconsideration, CC Docket 95-116 (released March 6, 1997).

¹⁷¹ See generally NPRM at ¶¶ 193-210.

First, SBC agrees with the NPRM's tentative conclusions regarding the categories of costs to be recovered.¹⁷² However, the Commission should permit full recovery of costs in these categories, and the categories should be the exclusive standards for recoverable costs. The Commission should not attempt to limit cost recovery at some later date by imposing additional, more restrictive standards for recoverable costs (as it did in adding the "but for" and "directly in the provisioning of" standards for recovery of LNP costs).¹⁷³

Second, the Commission should reconsider its tentative conclusion that TBNP costs should not be recovered through an end user charge.¹⁷⁴ SBC recognizes customers' sensitivity to the LNP surcharge and it agrees that a new charge should not be imposed on end users for TBNP. But there is a simple means to recover TBNP implementation costs, and that is through an extension of the existing LNP charge. The charge would need to be extended for a sufficient period of time to cover the all TBNP costs plus a reasonable compensation for the time value of money, since the costs would be incurred far in advance of recovery. However, it is possible that the extension would need to last only for a short period of time.

Finally, the NRPM seeks comment on whether tying cost recovery for TBNP to the quantity of numbers held by carriers would provide an economic incentive for efficient number utilization.¹⁷⁵ SBC believes that such a policy would be confiscatory and unwise. The adoption of a "carrier choice" utilization threshold and other initiatives recommended by SBC should be sufficient to give all carriers incentives to use numbering resources efficiently.

¹⁷² See NPRM at ¶ 197.

¹⁷³ See *Telephone Number Portability Cost Classification Proceeding*, CC Docket No. 95-116, Memorandum Opinion and Order (DA 98-2534), at ¶ 10 (released Dec. 14, 1998).

¹⁷⁴ See NPRM at ¶ 204.

¹⁷⁵ See NPRM at ¶ 207.

E. TRANSITION ISSUES: THE COMMISSION SHOULD NOT PERMIT ITN OR UNP

1. Individual Telephone Number Pooling (“ITN”)

The NPRM correctly decides not to pursue ITN pooling at this time.¹⁷⁶ However, it does seek comment on the possibility of migrating from a TBNP regime to an ITN pooling regime.¹⁷⁷ SBC submits that the architecture to support ITN has not been adequately defined to properly respond to the questions raised in the NPRM.

It is unclear at this time what would be required to migrate from TBNP to ITN. At this time, it is not even clear what architecture could be used to implement ITN. ITN would cause a tremendous drain on the current national LRN architecture, which was not designed to have every assigned telephone number loaded in the NPAC and downstream systems. Furthermore, it is possible that the capacity of the STP/SCPs and other network components cannot be made to handle the *millions* of individual records that an ITN regime would require. Although EDR is designed to allow the LRN technology to handle the level of network demands for TBNP, EDR is not be possible with ITN. Thus, it is reasonable to assume that a new architecture would need to be developed to implement ITN.

Finally, ITN would make individual numbers a commodity, and thereby very likely would encourage carriers to demand “premium” numbers. This is precisely what occurred with toll free numbers, where the introduction of ITN substantially increased demand for additional resources and led to the assignment of the 888 and 887 NPAs in a very short period of time. If the same situation occurred with telephone numbers, it would exacerbate numbering

¹⁷⁶ See NPRM at ¶ 141.

¹⁷⁷ See NPRM at ¶ 212.

shortages. Thus, the Commission should not look to migrate from TBNP to ITN any time in the foreseeable future.

2. Unassigned Number Porting (“UNP”)

The NPRM questions whether it should allow carriers to port unassigned numbers among themselves.¹⁷⁸ However, for capacity and throughput reasons, discussed in Section VI. above concerning EDR, the Commission should not allow UNP even on a voluntary basis.

If permitted, UNP would compete for limited capacity in carriers’ STPs/SCPs. This capacity is needed for porting and for TBNP. Each range of unassigned ported numbers would have to be stored using database capacity that could be used for LNP or TBNP. Voluntary UNP would impose further limitations on the number of thousands blocks that could be pooled and the number of telephone numbers that could be ported.¹⁷⁹

Voluntary UNP also raises a host of number assignment and administration issues. First, UNP would be inconsistent with the Commission’s established “disconnect number snap-back procedures” adopted in the *Local Number Portability Second Report & Order*.¹⁸⁰ The disconnect number snap-back procedure is designed to ensure that NXX assignees are accountable for the numbers assigned to them. UNP destroys this responsibility, allowing a carrier who is not assigned a numbering resource to control that resource. Finally, UNP, like

¹⁷⁸ See *NPRM* at ¶ 142.

¹⁷⁹ The principle proponent of UNP, MCI Worldcom, has admitted that UNP is not a number optimization measure. D. Dowd, MCI WorldCom, “Unassigned Number Porting Contribution,” Texas Number Conservation Industry Team, at 1 (dated Dec. 3, 1998), *attached to SBC NRO Report Comments, supra* note 2, at Attachment A. The Commission should not permit the allocation of SCP/STP storage capacity for a proposal that has no number optimization benefits associated with it, and it certainly should not do so in a proceeding that is established to address numbering optimization.

¹⁸⁰ See *generally Local Number Portability*, CC Docket No. 95-116, Second Report & Order (released August 18, 1997).

ITN, could lead to telephone numbers becoming commodities, which, as with ITN, could exacerbate numbering shortages and increase, not decrease, numbering resource demand and increase, not decrease, the pace of area code relief.

In short, UNP is a bad idea, whether done on a voluntary basis or done as part of a structured system. The Commission should not authorize carriers to port unassigned numbers, even on a voluntary basis.¹⁸¹

VI. THE COMMISSION SHOULD MODIFY ITS POLICIES TO MINIMIZE THE COSTS AND INCONVENIENCE TO CONSUMERS CAUSED BY AREA CODE RELIEF

SBC applauds the Commission for raising the issue of whether it should change its area code relief policies.¹⁸² The most direct means available to minimize the cost of rapid area code relief on consumers and society is to modify area code relief policies in order to permit overlay area codes without ten-digit dialing. According to the 1999 COCUS, 33 area codes will need relief in the next 18 months, and an additional 59 area codes will need relief in the following 18 months. The most immediate, cost-effective, and direct means to reduce the cost and inconvenience to customers caused by these relief projects is to modify its policies to increase the use of overlay area codes, including eliminating the mandatory ten-digit dialing requirement. The Commission should not eliminate its prohibition against technology- or service-specific overlays, as this would not increase numbering resource utilization, and it need

¹⁸¹ SBC opposes any consideration of separating routing and rating functions at this time, such as the Colorado Task Force's proposal to using out of band signaling to rate calls. *See NPRM* at ¶ 119. Such proposals appear to involve all of the potential issues of Geographic Number Portability, plus potentially other network impacts. Substantial design and study would need to be done as to the network implications and the potential costs before these proposals could even be considered by the Commission. Even when considered by the Commission at this later date, it would be likely that any solution that would be ultimately developed would take *years* to implement.

not further pursue the issue of “D digit” expansion, in light of the other numbering resource optimization policies it is considering in this proceeding. These points are addressed in turn below.

A. THE COMMISSION SHOULD ADOPT A PRESUMPTION IN FAVOR OF USING OVERLAY AREA CODES TO PROVIDE RELIEF IN THE LARGEST 100 MSAS, AND IT SHOULD REQUIRE OVERLAYS WHERE GEOGRAPHIC SPLITS HAVE FAILED OR WILL FAIL TO PROVIDE SUFFICIENT RELIEF

Overlay area codes are vastly superior to geographic splits as an area code relief method, minimizing the cost and inconvenience to consumers and society associated with area code relief and optimizing the efficient use of area codes. Overlays can be implemented without requiring *a single customer* to change his or her telephone number, thus substantially minimizing customer costs and inconvenience. Overlays also maximize the use of resources within an area code (whether assigned as NXX codes or blocks of 1000 numbers), because they allow resources to “go where the demand is” throughout the area receiving area code relief. Overlays are also quicker and cheaper to implement than splits. “Reverse” overlays, where a dividing line from a previous geographic split is erased and made an overlay, can provide area code relief without using another area code. In short, overlay area codes provide the Commission with an important means to provide a greater and more efficient use of existing numbering resources through cost effective methods.

The comparative advantages of overlays and geographic splits are addressed below, and they are overwhelmingly in favor of area code overlays. SBC thus urges the Commission to adopt a presumption in favor of overlay area code relief method in the largest 100 MSAs. In addition, to ensure that relief efforts keep pace with demand, SBC recommends that

¹⁸² See *NPRM* at ¶¶ 246-61.

the Commission require the use of overlays where either (a) the exhausting area code has failed to last for the recommended interval in the INC's NPA Relief Planning Guidelines,¹⁸³ or (b) the new area code is projected to last less than the recommended interval in those guidelines.

1. Overlays Minimize Costs And Disruption To Consumers

Geographic splits are the most costly and disruptive means of providing area code relief, and these costs are borne in large part by consumers. Because a geographic split requires a significant number of existing customers to change their telephone numbers, splits impose substantial societal costs for *every* area code relief project. Businesses have to endure the costs of new stationary, business cards, and (potentially) lost business and goodwill from those customers who have difficulty finding them after the split; consumers have to endure the harm of not receiving calls and the costs inherent in learning, often on a "call by call" basis, those telephone numbers that have been changed to the new area code. Carriers have to endure high costs of switch reprogramming, because many switches have to be reprogrammed for the changed NXX codes. In many situations, ten-digit dialing increases, as some of the telephone numbers that used to dialable by seven digits become ten-digit dialed calls. Subsequent area code relief in areas that have suffered a geographic split are more frequent and increasingly more costly and more harmful to consumers, because the geography of the area code continues to shrink, the incidence of ten-digit dialing increases, and customer cost and confusion mounts.

In comparison, with an overlay area code, *not one customer is forced to change his or her telephone number*, and the societal costs are a fraction of those imposed by a geographic split. Businesses avoid the expense of reprinting stationary and business cards, and

¹⁸³ See ATIS/INC, NPA Code Relief Planning & Notification Guidelines, INC 97-0404-016, at § 5.0 (rev. Jan. 27, 1999) <<http://www.atis.org/atis/clc/inc/incdocs.htm>> [hereinafter *NPA*

they do not lose any business opportunities or goodwill due to missed calls. Callers do not have to go through the lengthy and tedious process of learning which local telephone numbers have changed on a “call by call” basis. Subsequent relief occurs later than with a geographic split, because of the increased efficiency in use of numbering resources provided by overlay area codes. When the overlay area code ultimately needs relief, future overlays are practically “seamless” to customers. Customers do not have to change telephone numbers, they do not have to endure any dialing changes – they only have to be informed that a new area code is being introduced in the area. The overlay relief method is the only method that, once implemented, totally eliminates societal costs or inconvenience associated with subsequent exhaust and introduction of new area codes.

The primary detraction from all of these consumer benefits is the Commission’s ten-digit dialing requirement for overlays. However, as discussed in more detail in Section VI.B below, whatever value this requirement may have had is passed, and now it only stands as an impediment to efficient area code relief. It should be eliminated.

2. Overlays Provide Numbering Resource Efficiency

When an area code is geographically split into two area codes, the INC’s NPA Relief Planning Guidelines require that the split provide a substantially longer life for customers receiving the “new” area code (a minimum of eight to ten years) compared to the area that retains the existing code (a minimum of five years).¹⁸⁴ This requirement is designed to minimize disruption to the customers that are forced to change their telephone numbers, but it *guarantees* that any geographic split is designed to provide an *inefficient* use of numbering resources because

Relief Guidelines].

¹⁸⁴ *Id.*

it must be designed to provide unbalanced and uneven relief. This bias ensures that one side of the split will exhaust sooner than the other side. Splits inherently result in inefficient use of NPA resources, potentially having carriers stand in line for essential resources on one side of the geographic split line while resources sit, unused and unusable, on the other. Splits also can interfere with other numbering optimization measures, such as splitting of rate center boundaries.¹⁸⁵

Overlay area codes not only do not have any such designed inefficiency. In fact, overlays are perfectly *efficient* for the geographic area in which they are located. Overlays permit all NXX codes to “go to where the demand is” throughout the area, without the artificial constraint of a geographic split line. All NXX codes in each NPA involved in the overlay are available for assignment to providers, and further area code relief is not necessary until *all* assignable NXX codes in *both* area codes are assigned – thus ensuring 100 percent efficiency in the use of NXX codes.

With subsequent relief, geographic splits also use more area codes for the same geographic area. After a two-way geographic split in an area, subsequent relief throughout the area requires two additional area codes (one for each side of the split line). The next round of relief requires four new area codes to serve the same area, and the following round requires *eight* new area codes to serve the same area.

Once again, overlays are substantially more efficient than geographic splits. Every time relief is necessary, only one new area code is needed to provide relief to the entire

¹⁸⁵ See *The Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket 96-98, Emergency Joint Petition of ALTS, ELI, GST, MCI WorldCom, and Winstar for Suspension of Phoenix Area Code Relief Plan, or, in the Alternative, Other Relief (filed April 1, 1999).

area. Thus, in the example above, only *four* area codes would be needed to satisfy the same number of relief projects, as opposed to the *eight* area codes created by geographic splits.¹⁸⁶

3. “Reverse” Overlays Can Provide Substantial New Resources For Some Exhausting Area Codes, Without Assigning A New NPA

The Commission seeks comments on the potential benefits of the “reverse” overlay area code relief alternative. A “reverse overlay” eliminates a geographic split line between adjacent codes in order to allow NXX codes “stranded” on one side of the split line, which is not facing exhaust, to be used on the other, which is facing exhaust. Reverse overlays have all of the advantages of overlay area codes, and they also eliminate inefficiencies created by the previous, erased geographic split line. But most importantly, *reverse overlays allow relief entirely by using existing resources more efficiently* – no new area code needs to be assigned in the area.

The reverse overlay implemented in Dallas may help illustrate the point. In the fall of 1996, after a contentious relief planning process that caused an uproar throughout the greater Dallas area, the 214 area code was split into the 214 (central Dallas) and 972 (Plano and North Dallas) area codes. As is the case with most splits, the location of the split boundary was a hotly contested issue. Once implemented, demand increased substantially and unexpectedly in the 972 area code. Only seven months after it was introduced, the 972 area code went into jeopardy and the industry began planning relief. At that time, only 120 NXXs remained in the newly created 972 NPA, but 370 NXXs were available in the 214 area code on the other side of the newly created geographic split line.

¹⁸⁶ Of course, because there are five more area codes in the geographic split example, there are more total numbering resources available served by geographic splits. However, the eight

Ultimately, the industry and the Public Utilities Commission of Texas adopted a relief plan that erased the existing split line and allowed the 370 NXX codes in the 214 area code to be used to satisfy the demand for NXX codes in the 972 area code. Relief was provided to the Plano/North Dallas area *without the assignment of a new area code*.

The “reverse” overlay immediately reversed the trend toward growing shortages of numbers that had been developing in the Dallas area. The “reverse” overlay helped avert a crisis and provided time for planned area code relief. As of the beginning of this month, 182 NXX codes were available in the 214 and 972 area codes. In addition, this month another new area code – 469 – was laid over the 214/972 area codes. Now, instead of facing shortages and rationing, the Dallas/Plano area has more than 900 NXX codes available. The introduction of the 469 overlay was practically a non-event for customers, who already had adjusted to ten-digit dialing.

Of course, reverse overlays will not work in all situations. They are most effective when a substantial number of NXX codes are available in an adjacent NPA. Metropolitan areas where area code splits have been ordered are prime candidates for this type of overlay relief. Overlays optimize the NPA resource and reverse overlays allow for the maximum reclamation of unused numbering resource.

different split lines creates tremendous inefficiencies, as resources are “stranded” across each of the geographic split lines.

B. THE COMMISSION SHOULD ELIMINATE THE MANDATORY TEN-DIGIT DIALING REQUIREMENT FOR OVERLAYS OR, ALTERNATIVELY, LIBERALLY GRANT WAIVERS OF THE REQUIREMENT FOR RURAL AREAS

In its comments on the NRO report, SBC supported a mandatory ten-digit dialing requirement in major metropolitan areas.¹⁸⁷ Ten-digit dialing is rapidly becoming the norm in urban areas, and it appears increasingly evident that ten-digit dialing for all types of calls, even local calls, is inevitable. A high percentage of ten-digit local calling occurs in many urban areas today,¹⁸⁸ and the more area code relief is introduced, the higher the incidence of ten-digit dialing in local areas. Mandatory ten-digit local dialing also would allow assignment of codes that would be “protected” with seven-digit dialing.¹⁸⁹

However, these are longer-term benefits, and they pale in comparison to the immediate need to *significantly reduce costs and inconvenience to customers and society*. The best way to accomplish that goal is to eliminate the mandatory ten-digit dialing requirement for overlay area codes.¹⁹⁰

Thus, SBC is pleased to see the NPRM announce that the Commission is willing to consider eliminating the requirement.¹⁹¹ As the NPRM notes, “[t]here is often significant

¹⁸⁷ *SBC NRO Report Comments, supra* note 2, at 24-28.

¹⁸⁸ In fact, in the 310 area code in Los Angeles, SBC estimated more than a year ago that a majority of all calls were already being dialed using 1+10 digits, and, if the Commission had adopted a three-way geographic split plan, 71 percent of all calls originating in the 310 would have been 1+10-digit dialed calls. See *Order Instituting Rulemaking/Investigation on the Commission's Own Motion Into Competition for Local Exchange Service*, Comments Of The Overlay Coalition On 310 Area Code Relief Issues, at 9-10, Docket Nos. R.95-04-043/I.95-04-044 (Cal. PUC filed Mar. 20, 1998). The California Public Utilities Commission requires 1+10 digit dialing for inter-NPA calls.

¹⁸⁹ SBC estimates that there are approximately at least 684 protected NXX codes in the eight states where SBC telephone companies serve as an incumbent local exchange carrier.

¹⁹⁰ See 47 C.F.R. § 52.19(c)(3)(ii).

¹⁹¹ See *NPRM* at ¶ 252.

customer resistance to ten-digit dialing, which may explain why more state commissions have chosen to implement splits rather than overlays.”¹⁹² Eliminating the ten-digit dialing requirement would solve this problem, and encourage area code relief to be implemented by states in the least disruptive, most efficient, and most effective manner, with overlay area codes.

The ten-digit dialing requirement is outmoded and unnecessary today. The requirement was originally imposed in 1996 “to ensure that competition will not be deterred in overlay area codes as a result of dialing disparity.”¹⁹³ The Commission imposed the requirement based on its concern that “[c]ustomers would find it less attractive to switch carriers because competing exchange service providers, most of which will be new entrants to the market, would have to assign their customers numbers in the new overlay area code.”¹⁹⁴ While this may have been a legitimate concern at that time, almost three years ago, it is not a concern today.

Since the Commission adopted the ten-digit dialing requirement, the Commission and the industry have completed implementation of LNP, which gives wireline carriers access to all customer assigned and reserved telephone numbers. As a result, the Commission’s stated concern about a customer being reluctant to switch carriers due to a concern over the area code in which he or she would be assigned a new telephone number would only arise if the customer was establishing new service or needing new lines (in excess of the numbers that the customer may have reserved with its existing carrier, because reserved numbers are ported with the customer). Thus, the concern could only occur in a small fraction of situations today.

During the past three years, competing wireline carriers have acquired a huge amount of numbering resources in major metropolitan areas – in some places, competitive

¹⁹² See *NPRM* at ¶ 122.

¹⁹³ *Local Competition 2d Report & Order*, at ¶ 287.

carriers have as many or more NXX codes assigned to them as incumbent wireline carriers. If the Commission also requires TBNP (with or without a utilization threshold), the number of resource blocks available to TBNP-participating carriers would skyrocket, making even more resources available to TBNP-participating carriers.¹⁹⁵

In short, developments since the *Local Competition 2d Report & Order* have eliminated the need for the ten-digit dialing requirement. SBC respectfully suggests that the time has come to eliminate the requirement altogether.¹⁹⁶ However, if the Commission does not eliminate the requirement completely, it should inform state commissions that it would liberally grant waivers of the ten-digit dialing requirement in rural areas. Rural areas have a substantially higher incidence of seven-digit dialing, so the ten-digit dialing requirement imposes substantially more inconvenience than in urban areas.

C. TECHNOLOGY- OR SERVICE-SPECIFIC OVERLAYS SHOULD NOT BE PERMITTED

A service or technology specific overlay is not a numbering resource optimization technique – it is a means of prohibiting use of particular numbers by a certain technology. Segregating customers to specific area codes based on technology does not reduce the amount of numbers needed in an area, does not make numbers any more generally available in the area and most importantly does not improve utilization. Optimization is thwarted by imposing restrictions that dictate that numbers be assigned based on technology rather than customer need. A service

¹⁹⁴ *Id.*

¹⁹⁵ As noted in Section IV.A, *supra*, TBNP could result in 1,152 thousands blocks being made available in the 310 area code in Los Angeles, even if only CLECs participated in TBNP.

¹⁹⁶ Of course, state commissions should continue to have the authority to require mandatory ten-digit dialing. As the Commission noted in the *Local Competition 2d Report & Order* (at ¶ 317), “[s]tates are in the best position at this time to determine the dialing patterns because of their familiarity with local circumstances and customers regarding telephone usage.”

specific overlay is nothing more than a policy decision that some technologies are somehow more deserving of a particular, usually existing, area code than others – a premise that the Commission has rightly rejected repeatedly since 1986.¹⁹⁷ As the Illinois Commerce Commission noted in rejecting suggestions of a wireless only overlay, regulators should decline:

. . . to make dubious value judgments about various telecommunications services of the kind that are implicit in the proposals for wireless only overlays. Does a physician's pager have any less public interest significance than a second residential line? Is a sales representative's cellular phone less worthy of numbering resources and ease of use than her modem line?¹⁹⁸

The NPRM notes that the Commission “continues to believe that service-specific or technology specific overlays raise serious competitive concerns that must be carefully considered for reasons stated in our previous orders.”¹⁹⁹ The NPRM also reiterates the Commission's prior concern over several facets of technology- or service-specific plans including assigning numbers from the existing area code to wireline carriers but excluding paging and cellular carriers, requiring wireless carriers to give back numbers previously assigned

¹⁹⁷ See, e.g., *The Need to Promote Competition and Efficient Use of Spectrum for Radio Common Carrier Services*, 59 Rad. Reg. 2d 1275, Appendix B, FCC Policy Statement on Interconnection of Cellular Systems, ¶ 4 (1986) (“[c]ellular telephone carriers are part of the network and are entitled to reasonable accommodation of their numbering requirements on the same basis as an independent wireline telephone company.”); *Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech-Illinois*, IAD 94-102, Declaratory Ruling and Order, ¶¶ 25-29, 33-35, 37 (released January 23, 1995) [*Ameritech Order*]; *The Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket 96-98, Second Report and Order and Memorandum Opinion and Order, ¶¶ 285, 304-305 (Released August 8, 1996) [*Local Competition 2d Report & Order*].

¹⁹⁸ *Illinois Bell Telephone Company, Petition for Approval of Stipulation and Agreement of Parties for a 312 Relief Plan*, Illinois Commerce Commission No. 94-3015, Order at 21 (November 20, 1995).

¹⁹⁹ NPRM at ¶ 257.

to their customers when wireline carriers were not required to do so, and assigning all numbers from a new area code exclusively to wireless carriers.²⁰⁰

The NPRM requests comments on whether the discriminatory impact of service specific or technology specific overlays could be mitigated if such overlays were prospective only and did not involve “taking back” numbers from existing customers.²⁰¹ While the impact is certainly mitigated by not having to “take back” numbers and incur customer and carrier expense of changing number and reprogramming wireless phones, such mitigation does not equate to such an overlay no longer violating the Act. The Commission considered and rejected such arguments in the *Local Competition 2d Report & Order*, where it rejected a prospective technology-specific overlay, involving no “take back” of numbers.²⁰² In rejecting the proposed prospective overlay the Commission noted that it had specifically determined²⁰³ that “as a matter of law” *each* of the aforementioned facets of a service or technology specific overlay “violates the prohibition in the Act against unjust or unreasonable discrimination” and *each* “imposes significant competitive disadvantages on the wireless carriers, while giving certain advantages to wireline carriers.”²⁰⁴

The “prospective overlay” proposal also highlights a key numbering conservation efficiency concern with restricting use of numbers to particular technologies and that is would existing numbers become “stranded.” The introduction of a new NPA introduces 7.92 million numbers into an area. To restrict use of those 7.92 million numbers to a particular technology,

²⁰⁰ See NPRM at ¶ 256.

²⁰¹ See NPRM at ¶ 257.

²⁰² *Local Competition 2d Report & Order*, ¶¶ 304-305.

²⁰³ *Ameritech Order*, ¶¶ 28, 33.

²⁰⁴ *Local Competition 2d Report & Order*, at ¶ 305.

not to be shared with another technology or service creates an extreme risk of inefficiency unless the use of the numbers by the technologies are equal.

Wireless telephony subscribership was approximately 69.2 million and paging is approximately 53.3 million *nationwide* at the end of 1998.²⁰⁵ As the Commission notes, wireless carriers on the average need less NXXs to than landline to serve the same geographic footprint. Thus, for a service specific overlay not to result in an inefficient use of numbers the coverage area of such an overlay would have to be expanded or regional in nature – thus enhancing the discriminatory anti-competitive affect by introducing confusion over dialing patterns and toll-calling. Again the only “benefit” of introducing such detrimental effects is to preserve numbers in an existing area code for another technology – something that the Commission has repeatedly found to violate the Act.

Moreover, technology- and service-specific area codes would not increase numbering efficiency or slow the pace of area code relief – in fact, they likely would *decrease* efficiency and require *more* new area codes. Artificial boundaries in numbering resource allocation create inefficiencies – whether those boundaries are geographic split lines or service restrictions. Establishing new wireless codes, for example, would hasten the pace of exhaust, at least in the short-term as a substantial number of new area codes likely would need to be created to dedicate to wireless. Such “wireless only” area codes would clearly not be any kind of solution to the current problem – given that the current high demand is created primarily by *wireline* new entrants seeking to expand footprint, it makes no sense to create a class of area codes that *cannot be used* to satisfy the main source of demand.

The Commission should not change its long-established prohibition on service specific or technology specific overlays. Quite simply, if 7.92 million numbers are going to be introduced into an area it makes more sense for such numbers to be available to all users rather than only the users of a particular service or technology. Such overlays are not numbering resource optimization or conservation tools—they are merely value judgments about who is more deserving of existing numbering resources.

D. “D DIGIT EXPANSION” SHOULD NOT BE IMPLEMENTED AT THIS TIME

SBC does not recommend expansion of the “D digit” at this time, in light of the other alternatives proposed in the NPRM.²⁰⁶ Much investigation and study would need to be done prior to releasing the D digit, as it could substantially affect carriers’ internal operations. Implementing the “D digit” also would require substantial time and effort, as it would require modification of all switching systems and networks to allow the “D digit” to be recognized as a ten-digit number. If switching changes are not made for all NANP areas, then callers may not be able to complete calls to telephone numbers in “D digit” prefixes. Because all NANP areas would be affected, “D digit” expansion would require coordination with and the cooperation of all nations in the NANP, further increasing the implementation time and effort.²⁰⁷ In addition, “D digit” expansion would require mandatory ten-digit dialing, which, for the reasons stated in Section VI.C above, should not be the Commission’s highest priority at this time. Finally, releasing the “D digit” very likely would entail substantial additional costs, and additional costs

²⁰⁵ *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Fourth Report, at 6-7 (released June 24, 1999).

²⁰⁶ See NPRM at ¶ 129 (seeking comment on expanding the D digit).

²⁰⁷ Because “D digit” expansion must be done on a NANP-wide basis, it would be impractical for state commissions to choose whether to release the “D-digit” in their territories.

are not justified at this point in light of the other costly initiatives that the Commission is considering in this proceeding. Accordingly, SBC recommends that the industry continue to investigate release of the "D digit" as part of its development of NANP expansion plans, but the Commission should not consider this issue further in this proceeding.

VII. STATE COMMISSIONS SHOULD ACTIVELY INVESTIGATE RATE CENTER CONSOLIDATION

SBC supports consolidation of rate centers, where consolidation will not significantly affect consumers' existing local calling areas and thus would not increase consumer existing local rates. SBC has extensive experience with RCC, having actively participated in RCC efforts in the States of Missouri and Texas. Last year, SBC voluntarily consolidated 108 rate centers to 32 in the State of Texas. In the State of Missouri, SBC recently agreed to consolidate 14 rate centers to seven in the St. Louis area. In addition, SBC currently studying rate center consolidation in other states where it provides service.

RCC can be implemented most expeditiously in contiguous rate centers having identical calling scopes. Where rate centers can be consolidated in the same local calling area, consumer local exchange service rates are not affected. State commissions, of course, will need to evaluate the cost benefit analysis of these types of RCC proposals before they can be implemented. Technical and operational complexities with 911 call routing must be thoroughly studied as part of any RCC plan. Close coordination between local exchange carriers, 911 service providers, and Public Safety Answering Point ("PSAP") operators must occur in order to avoid potential public safety concerns. Because RCC involves detailed examination of local calling scopes, rate center structures, and 911 systems, state commissions likely are best able to determine whether RCC would be justified in any particular local area. Accordingly, the

Commission should encourage state commissions to implement RCC where the benefits exceed the costs.

Where the benefits of RCC do exceed the costs, there would be some advantage to consolidate rate centers prior to implementing TBNP.²⁰⁸ However, because the comparative costs and benefits of consolidation need to be examined in every local area, RCC should not be a prerequisite to TBNP. Instead, RCC should be implemented only after a thorough review of the potential impacts by the industry and state commissions, and only where the benefits exceed the costs.

Finally, as mentioned in Section VI above, the geographic split method of area code relief can divide rate centers. Although rate centers could be divided with any geographic split, RCC creates larger rate centers and thereby could increase the possibility that a geographic split could divide a rate center. Thus, if the Commission encourages state commissions to implement RCC, it should also direct them not to divide rate centers with geographic split area code relief plans.

VIII. CHARGING PRICES FOR NUMBERING RESOURCES WOULD PROVIDE LITTLE BENEFIT AND WOULD RESULT IN HIGHER COSTS FOR CONSUMERS

Although recognizing “in the short term, it is probably not feasible to replace our existing numbering allocation mechanism with a pricing allocation mechanism,”²⁰⁹ the NPRM seeks comment on “both the theoretical and practical issues related to using pricing to allocate

²⁰⁸ TBNP pools resources at individual rate centers. Reducing rate centers would reduce the number of pools required, and, at least at a theoretical level, could thereby improve the efficiency of TBNP.

²⁰⁹ See *NPRM* at ¶ 226.

optimally numbering resources” in the long term.²¹⁰ Noting that telephone numbers are administratively allocated rather than sold, the NPRM suggests that the assignment of explicit prices to numbers could potentially encourage carriers to use inventories of available numbers more efficiently.²¹¹ Establishing prices for telephone numbers, however, will not necessarily reduce any inefficiencies in the use of numbers and could produce, perhaps unintentionally, negative effects on consumer welfare. These points are addressed below.

A. A ZERO PRICE FOR TELEPHONE NUMBERS IS APPROPRIATE

The NPRM suggests that the current zero price for telephone numbers as one of the reasons for “the poor utilization of numbering resources.”²¹² Since the supply of numbers theoretically is infinite, however, telephone numbers are not a scarce resource *per se*. The limitless supply of telephone numbers, absent any external constraints, suggests a zero price is appropriate.

The conditions limiting the size of telephone numbers (such as manufacturing conventions, prior industry standards, and/or technological constraints) may impose the characteristics of a scarce resource on telephone numbers, at least for limited periods of time. For example, if the industry faces NANP exhaust, the costs of NANP expansion could create a type of temporarily-limited scarcity. However, if telephone numbers ultimately expand beyond ten digits, then assigning explicit prices to numbers is not intended to avoid, but rather delay, the

²¹⁰ See NPRM at ¶ 225.

²¹¹ *Id.*

²¹² *Id.* While the absence of a price may contribute to low numbering utilization, SBC respectfully suggests that the absence of a price regulating mechanism is not the principal cause of the current problem. Instead, as discussed in Section II.A, *supra*, the current problem is caused by the expansion of service area footprint codes by wireline new entrants under the existing rate center/NXX block number assignment structure. A pricing mechanism would likely

investment in NANP expansion. The benefits from delaying such investment requirements must therefore be expected to exceed any costs imposed by the imposition of explicit prices on telephone numbers. Furthermore, administrative solutions would need to be deemed a less effective and/or more costly approach to delaying number-related investment requirements than establishing prices for telephone numbers to conclude carriers should pay for numbers.

If the NANP is expanded, the investment and network modifications very likely would (and certainly should) accommodate telephone number expansion to the point where further telephone number exhaustion issues are avoided altogether. In effect, the network investments and administrative program modifications (e.g., changes to billing systems, databases, etc.), once accomplished, might effectively reestablish an extraordinarily large (*i.e.*, for practical purposes, an infinite) supply of telephone numbers. If the supply of telephone numbers ultimately will increase dramatically as technological and administrative constraints are relaxed, then the price of numbers should appropriately be zero. To the extent technological and administrative changes are inevitable to accommodate growth in the demand for additional telephone numbers (driven, for example, by increasing population and income levels), assigning prices to numbers for conservation purposes now is a short term policy action which will ultimately be reversed as the supply of numbers increases and their prices fall toward zero. As a result, establishing prices for telephone numbers would be focused only on the short-term, with little, if any, long-term application.

have little influence on this situation, except (perhaps) to discourage carriers from entering new markets (or at least expanding service area footprint).

**B. "MARKET-BASED" PRICES SUBJECT TO REGULATORY CONTROL
LIKELY WILL NOT BE A SIGNIFICANT IMPROVEMENT OVER
ADMINISTRATIVE SOLUTIONS**

The NPRM suggests two methods for determining prices for telephone numbers: administratively determined prices and market-based prices.²¹³ Administratively determined prices would seem to simply impose additional costs (*e.g.*, generating cost studies) on the current administrative process for allocating numbering resources. An administrative solution can be implemented without requiring the regulatory process to produce a set of prices. For instance, requiring carriers to pay for telephone numbers does not seem necessary for implementing the Commission's example in which "the rate of increase in the supply of numbers ... could be set based on achieving a prescribed life for each NPA."²¹⁴ Furthermore, the NPRM recognizes that administratively determined prices should include "the costs imposed on the rest of society when new numbers are rolled out."²¹⁵ Recognizing the difficulty of determining the total social cost associated with the allocation of each block of telephone numbers, administratively determining appropriate prices appears extraordinarily burdensome, if not impossible. Relying on market forces, however, could be no more likely to generate appropriate prices for telephone numbers.

Although numbers would be available only to carriers, a market mechanism would permit end users' preferences to influence prices. Large corporate end users might have strong preferences for numbers that require particular dialing patterns, such as those spelling out a business name, acronym, or slogan. Acting in concert with a carrier to acquire the desired number, the end user can not only drive up the prices for numbers during a particular selling period but could leave the carrier with the type of excess supply of numbers the Commission is

²¹³ See NPRM at ¶ 231.

²¹⁴ *Id.*

seeking to eliminate. The carrier, if sufficiently compensated by such corporate “clients,” will not view its inventory of unused numbers as either inefficient or wasteful. The carrier, in effect, could perform the functions of a broker, satisfying the demands of such corporate “clients” while accumulating a stockpile of potentially valuable numbers.²¹⁶ Market-based pricing of telephone numbers would seem to create heightened demand for numbers and incentives to stockpile, rather than encouraging efficient use of numbering resources.

With potentially few participants bidding for numbers in a particular geographic market (including those urban areas that are the focus of competitive entry), the possibility arises that a carrier (or group of carriers acting in concert) might use the auction process to gain competitive advantages. For example, it might be feasible for a carrier (or a few cooperating carriers) to either hoard numbers, thereby preventing rivals from acquiring a necessary resource, or drive up the price rivals must pay for numbers. Aware of the potential for encouraging a “raising rivals costs” strategy that can accompany the auction of telephone numbers, the NPRM seeks comment on a two-tier pricing system to dampen such incentives.²¹⁷ Establishing an appropriate flat rate charge, however, might be sufficiently difficult to require repeated experimentation. A flat rate charge, in effect, establishes a threshold financial loss that carriers would be willing to incur to prevent rivals from acquiring telephone numbers. Flat rate charges set too low would eliminate all incentives for carriers to hoard numbers. However, if hoarding behavior is not immediately detected, upward adjustments in the flat rate might reinforce the “raising rivals’ costs” strategy by increasing the price of remaining numbers to the carriers

²¹⁵ *NPRM* at ¶ 232.

²¹⁶ If such arrangements are sufficiently lucrative, some carriers could conceivably consider such activities one of the services routinely offered to potential subscribers.

²¹⁷ *See NPRM* at ¶ 229.

initially denied numbers by their rivals' hoarding strategy. Even with two-tier pricing, administrative oversight and intervention likely would be necessary.

The NPRM also suggests that numbers currently available to carriers, whether or not such numbers are assigned to end-users, would be assigned prices that "reflect their current market value."²¹⁸ Assigning prices to all numbers currently held by carriers on the basis of auction results involving only the supply of numbers administrators and/or regulators decide to release for bid during a particular time period would tend to overstate the value of currently assigned numbers. Many of the numbers currently held by carriers were assigned years ago and reflect industry and regulatory goals and intentions prevailing at the time these numbers were assigned. It is inappropriate to apply current auction prices to numbers acquired under a significantly different set of regulatory guidelines and expectations. Auctions influenced by expectations of number shortages or scarcity might be expected to generate higher prices than would be the case if the supply of available numbers were substantially greater. For example, consider the hypothetical example that a substantial portion of the 633 million unused numbers cited by the Commission as currently held by carriers were made available for auction.²¹⁹ By effectively taxing numbers currently assigned to carriers, the Commission would be financially punishing those carriers for their responses to a significantly different set of regulatory incentives, requirements, and expectations than those currently put forth.

Perhaps envisioning an outlet for unassigned numbers currently held by carriers, the Commission invites comments on whether a secondary market for numbers should be

²¹⁸ *NPRM* at ¶ 235.

²¹⁹ *NPRM* at ¶ 226 n. 364.

permitted.²²⁰ Although the Commission claims telephone numbers are a public resource and not a private commodity,²²¹ the potential existence of a secondary market would seem to give numbers the primary characteristics of privately owned commodities. The development of a secondary market for telephone numbers could dampen the effects of any Commission attempts to prevent hoarding numbers. A secondary market would establish the potential for speculative acquisition of numbers in the Commission's (closely managed) primary auction market. Public policy should not subject the price of what is characterized as an essential input to the national telecommunications infrastructure to the speculative influences that determine, in part, the prices of foreign currencies, commodities, common stocks, and other privately owned assets, which are an integral part of the market-based auction process.

While an unfettered auction process is strictly "nondiscriminatory" and "competitively neutral" in the economic sense, the results of a pure auction might be inconsistent with the regulatory connotations that apparently accompany these terms. For example, a pure auction would not guarantee each participating carrier would acquire a block of telephone numbers. Even if a carrier depleted its current supply of numbers and required an additional block to continue increasing its subscriber base, a pure auction process would not guarantee the carrier needed telephone numbers.

The NPRM suggests a two-tier pricing scheme, with the variable charge for each NXX code potentially set via an auction process but the flat rate charge presumably to be set by the Commission.²²² The NPRM expresses uncertainty whether a market-based pricing mechanism will reflect the full social costs of using telephone numbers and references a

²²⁰ *NPRM* at ¶ 235.

²²¹ *NPRM* at ¶ 229.

“properly designed” market-based pricing mechanism.²²³ Indicating its ability to control the supply of numbers available for auction, the Commission implicitly acknowledges it could thereby “manage” telephone number prices by controlling supply relative to the demand for numbers.²²⁴ Finally, the Commission indicates its willingness to limit price fluctuations the auction process might produce, to cap the prices that could result from an auction process, to somehow (absent direct market determination) assign prices to telephone numbers currently assigned to carriers, and to consider whether it should prohibit the development of a secondary market for telephone numbers.²²⁵ Labeling any process “market-based” that is so closely “managed” and potentially subject to such numerous regulatory restrictions might be misleading. The administrative and enforcement costs likely necessary to ensure “proper behavior” of the auction process presumably envisioned by the Commission might approach (or perhaps even exceed) any marginal benefits anticipated from assigning prices to telephone numbers. If the process used to determine prices requires close regulatory supervision and intervention to ensure “acceptable results,” that process is clearly not considered efficient by the supervising regulators. Furthermore, the prices developed under such regulatory guidance likely would differ little from prices that might otherwise have been assigned by regulators directly. Indeed, using prices determined within a closely managed, tightly controlled system appears to differ from more direct administrative solutions only by increasing the complexity and likely the expense of allocating telephone numbers to carriers.

²²² *See id.*

²²³ *See NPRM* at ¶ 233.

²²⁴ *See NPRM* at ¶ 234.

²²⁵ *See NPRM* at ¶¶ 232, 239.

C. COST RECOVERY MIGHT PRODUCE UNINTENDED CONSUMER WELFARE EFFECTS

The potential assignment of prices to telephone numbers would be a cost increase mandated by regulators and hence appropriately recovered through the prices for those services to which the cost can be directly attributed. Since telephone numbers are essential to the provision of access to telephone networks, carriers might be expected to consider prices for numbering resources as increases in the cost of basic local access to their networks. From this perspective, the price for obtaining telephone numbers might be most appropriately recovered by effectively raising the prices of basic access to a carrier's network, which typically also includes unlimited local usage. While the precise method for recovering such telephone number costs might take the form of a surcharge, a special charge, or some similar mechanism, it is likely to be perceived as a local telephone service price increase by subscribers. The result of such perceived price increases will be to dampen, at least to some extent, the demand for local telephone service.

Since prices could potentially apply to all telephone numbers, all subscribers could be affected by the imposition of this new cost. Further, if prices for telephone numbers are determined through some sort of "market-based" process, prices in densely populated urban areas (which are also the focus of competitive entry) probably will be higher than prices in sparsely populated, relatively remote regions (i.e., geographic markets that are less attractive to potential entrants). One possibility is that all carriers' telephone numbers (both those already assigned to end users and those awaiting assignment) in urban areas would be determined by auctions of a relatively small supply of new numbers (with the supply of numbers available for each auction being controlled by regulators). This process, therefore, could produce prices for telephone

numbers assigned to low income, urban residence subscribers that reflect the intensity of the competition for large business customers in the same metropolitan area.

Although the available evidence indicates local service price increases have only a slight negative effect on the aggregate (i.e., total market) demand for access to telephone networks in the U. S., low income urban residence subscribers may be more sensitive to such price increases. A policy that increases the cost of providing basic access to telephone networks by assigning prices to telephone numbers might produce relatively detrimental effects on subscribership in the low income urban residence market segment. Ironically, this same policy might ultimately cause competition for large business customers in metropolitan areas to exacerbate these negative effects on the ability of urban low-income residence consumers to either purchase access or maintain their subscribership. While this is not the only cost recovery issue that merits attention, such potential non-uniform consumer welfare effects should be carefully considered prior to adoption of any decision to establish prices for telephone numbers.

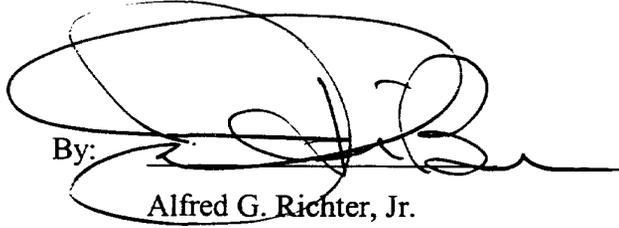
IX. CONCLUSION

As explained in more detail in these comments, the Commission should take the following four major policy initiatives in order to slow the pace of area code relief and minimize costs for consumers and society: (1) adopt a modified “carrier choice” utilization threshold; (2) strengthen and improve numbering resource administration and enforcement; (3) order all carriers who fail to meet the Commission’s utilization threshold in the largest 100 MSAs to implement thousands block number pooling with mandatory EDR, and establish a mechanism by which carriers could fully recover the costs of implementing TBNP; and, (4) modify its area code relief policies to mandate overlay area codes in certain circumstances, and eliminate the ten-digit dialing requirement for overlays. The Commission should also encourage state commissions to

consolidate rate centers in their jurisdictions where consolidation can be accomplished without effecting local rates and the benefits otherwise exceed the costs. SBC urges the Commission to act promptly in this docket to establish these policies.

Respectfully submitted,

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