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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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

In the Matter of	)	
	)	
Numbering Resource Optimization	)	CC Docket No. 99-200
	)	
Connecticut Department of Public Utility Control Petition for Rulemaking to Amend the Commission's Rule Prohibiting Technology-Specific or Service-Specific Area Code Overlays	)	RM No. 9258
	)	
Massachusetts Department of Telecommunications and Energy Petition for Waiver to Implement a Technology-Specific Overlay in the 508, 617, 781, and 978 Area Codes	)	NSD File No. L-99-17
	)	
California Public Utilities Commission and the People of the State of California Petition for Waiver to Implement a Technology-Specific or Service-Specific Area Code	)	NSD File No. L-99-36

BELLSOUTH REPLY

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SUMMARY

BellSouth introduces into the record the report of the North American Numbering Council (NANC) Paragraph 165 Issue Management Group (IMG) Final Report on the Effects of Thousands Block Pooling on North American Numbering Plan (NANP) Exhaust. The IMG Report demonstrates that a phased approach to number pooling is appropriate; that there is no reason to advance the local number portability date of November 24, 2002 for CMRS carriers, and that the NANP Administrator's earlier exhaust projections are based on arbitrary and inflexible assumptions.

BellSouth supports those comments that advocate a uniform, nationwide number optimization solution in which numbering policy, administration and enforcement occur at the national level. Specifically, the FCC should assume the leadership role in number optimization. States should partner with the FCC by accepting the inevitable transition to ten-digit dialing and fully considering whether rate center consolidation should be implemented prior to number pooling. The FCC should continue to consider waivers to its ten-digit dialing requirement in the context of area code overlays, but should not now change the rule. While states should consider rate center consolidation prior to pooling, they must not be required to actually implement rate center consolidation if implementation does not make sense under the circumstances.

Voluntary industry guidelines should continue to be the cornerstone of number administration. The industry should continue to strengthen guidelines, and the FCC should delegate specific authority to the NANP Administrator to reclaim resources. The imposition of more severe penalties must only occur in the context where parties are afforded due process through the FCC's prescribed procedures. Further, innovative solutions proposed by individuals

outside of traditional industry segments should be brought to the industry where their merits can be fully evaluated.

There is no urgency in deploying thousands block number pooling in all top 100 metropolitan statistical areas. The IMG Report makes clear that a phased approach to number pooling will not hasten NANP exhaust. In the meantime, carriers should be encouraged to practice thousands block management in order to facilitate possible future pooling efforts. The Commission should not sanction Unassigned Number Porting or BRIDS modification at the present time.

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BELLSOUTH REPLY

BellSouth Corporation, by counsel and on behalf of its affiliated companies, replies to the comments filed in this proceeding and introduces into the record herein the results of the North American Numbering Council (NANC) Paragraph 165 Issue Management Group (IMG) Final Report on the Effects of Thousands Block Pooling on North American Numbering Plan (NANP) Exhaust.[1] The IMG Report conclusively demonstrates the appropriateness of the following positions advocated in the record of this proceeding:

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[1] NANC Paragraph 165 IMG, Effect of Thousand Block Pooling on NANP Exhaust, Final Report (August 25, 1999) attached hereto. (IMG Report).

1) A phased approach to the implementation of number pooling is the most prudent approach as the data in the IMG Report show. The phased introduction of any industry segment into number pooling will not have any significant impact on the NANP exhaust date;[2]

2) There is no reason to advance the local number portability date of November 24, 2002, for CMRS carriers. In light of the relative insensitivity of NANP exhaust to pooling implementation date, there is also time for a thorough cost/benefit analysis before a decision is made as to whether CMRS should pool after it is LNP capable.

3) The NANPA's number exhaust projections are based on assumptions that are arbitrary and inflexible. When a more realistic set of assumptions are utilized in the NANPA model, a more realistic projection of NANP exhaustion is achieved.

It is deeply disturbing that the NANC chose not to forward the work of the IMG to the FCC, especially since the NANC formed the IMG to specifically address the FCC's request to the NANC in paragraph 165 of the NPRM, and because the FCC encouraged the NANC to submit any conclusions or recommendations that it may have regarding pooling, including pooling by CMRS carriers, based on the NANPA's projections or the NANC's own NANPA Exhaust Review Team's findings.[3]

BellSouth is not a member of the NANC, but participated as a member of both the NANP Exhaust Review Team and the Paragraph 165 IMG. The recommendations of both working groups are consensus decisions, and both consensus decisions found significant problems with the NANP Exhaust Study, a critical part of the current rulemaking.[4] Although a majority of the NANC favored forwarding the IMG consensus recommendations to the FCC, the NANC declared that it would not do so for a lack of consensus among the NANC. The IMG was

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2 IMG Report, Attachment A, § 3.

3 NPRM at ¶ 165; IMG Report at 1.

4 SBC Comments at 15-16.

therefore dismissed with instructions to continue their work and present the results at the next meeting of the NANC.

BellSouth objects strongly to the NANC's selective use of "consensus" to obtain result-oriented decisions and nullify the work of carriers like BellSouth, who are not on the NANC but who dedicate enormous amounts of internal resources to further the work of the NANC through its working groups. Although the NANC charter requires the NANC to reach decisions based on consensus, consensus is not always possible and a lack of consensus has not stopped the NANC from providing critical information to the FCC in other cases. Indeed, when specifically required to provide a consensus recommendation for the first NANP Administrator, a bare NANC majority *reversed* the recommendation of the NANC working group, many of whom were not represented on the NANC. The NANC nevertheless apprised the FCC of the decision of the working group, the decision of the NANC, and the lack of consensus. Here, the FCC in its NPRM did not request that NANC reach a consensus on the NANP Exhaust Study. In fact the FCC specifically encouraged the NANC "to submit *any* conclusions or recommendations *that it may have* regarding pooling, including pooling by CMRS carriers, based on the NANPA's projections or the team's findings."[5]

I. THE COMMISSION MUST ASSUME A LEADERSHIP ROLE

There is strong support in the record for an FCC-led national approach to number optimization. AT&T correctly notes that the Commission has repeatedly affirmed that a system comprised of varying state regimes for number administration would results in significant

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[5] *Id.*

societal and economic costs. [6] As US WEST states, the FCC must exercise its jurisdiction in the area of numbering to assure that actions taken are consistent with a sound national numbering policy and fair competition.[7] According to VoiceStream, this Commission should remain the predominant authority and final arbiter with respect to the setting of national policies relating to numbering administration and conservation, as well as area code relief.[8] And as Nextel observes, if there is a single thing that the increasingly frequent skirmishes between different classes of service providers and state commissions in an area code exhaust proceedings highlight, it is the need for nationwide uniform numbering administration.[9]

II. STATES MUST PARTNER IN NUMBER OPTIMIZATION BY EMPLOYING ALL PRACTICABLE METHODS CURRENTLY AVAILABLE

States have an important partnership role to play in the management of the nation's telephone number resources, but it is critical that states not confuse number conservation with numbering plan area (NPA) code relief.[10] States can have an immediate and dramatic impact on number optimization, however, if they would be willing to implement 10-digit dialing, and be open to the benefits of rate center consolidation and the use of overlays as the preferred NPA relief mechanism. In the meantime, it is vital that the Commission not grant waivers to its rules or industry guidelines that undermine the national plan, or that are inconsistent with national optimization and conservation policies.[11]

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6 AT&T Comments at 11.

7 US West Comments at 6-7.

8 VoiceStream Comments at 7.

9 Nextel Comments at 5.

10 Sprint Comments at 24. CTIA Comments at 3.

11 Ameritech Comments at 8.

Ten-digit Dialing. The comments in opposition to mandatory ten-digit dialing are not persuasive. Even those parties who do not favor its implementation in general, such as the Florida Public Service Commission, or in the context of all-services overlays, such as Ameritech and SBC Corporation, acknowledge the benefits to be gained from ten-digit dialing.[12] More than one party explains that ten-digit dialing is the natural step in the hundred-year evolution of dialing patterns.[13] No party denies that seven- digit dialing results in under-utilization of the available telephone number resource by requiring the set-aside of protected codes.[14] Moreover, other parties confirm BellSouth's experience that very few problems, including complaints from consumers, have arisen in areas where ten-digit dialing has been required under the Commission's rules.[15] Specifically, in the Atlanta, Georgia metropolitan statistical area, end users appear to have adjusted very well to ten-digit dialing. This experience is supported by the comments of the Colorado Public Service Commission.[16] In fact, many parties support a move toward mandatory ten-digit dialing, and some suggest a date certain on which such a transition would take place.[17] BellSouth is not opposed to the Commission establishing such a date certain.

BellSouth opposes the suggestion by Ameritech and others that the ten digit-dialing requirement be removed from the Commission's rules regarding the use of all service NPA

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12 Ameritech Comments at 33 ("Ten-digit dialing acts as a number optimization/conservation measure because it frees up protected NXX codes within an adjacent NPA"). Florida Public Service Commission Comments at 11, SBC Comments at 100.

13 Ameritech Comments at 9, Bell Atlantic Comments at 19, US West Comments at 14.

14 Bell Atlantic Comments at 18, SBC Comments at 100.

15 Bell Atlantic Comments at 20.

16 Colorado Public Service Commission Comments at 12.

17 US West Comments at 16, AirTouch Comments at 8-9, GTE Comments at 37, USTA Comments at 7.

overlays.[18] The benefits of ten-digit dialing in terms of freeing up resources and preparing the public for eventual ten-digit dialing in a phased and controlled manner far outweigh the drawbacks of a temporary disruption in dialing practices. Because the Commission will consider, and grant where appropriate, waivers of the requirement when in the public interest,[19] there is no need to remove a requirement that is entirely consistent with uniform, nationwide, cost-effective number optimization.

Rate Center Consolidation. States should remain open to the benefits of rate center consolidation. The Commission should recognize the synergies obtained between rate center consolidation and pooling.[20] While BellSouth advocates that states should be required by the FCC to show that they have thoroughly examined the benefits and impacts of rate center consolidation prior to the implementation of thousands block number pooling within the particular area;[21] and prior to any request for a grant of additional delegated authority for numbering optimization, BellSouth does not advocate states' mandatory implementation of rate center consolidation where it is not practicable. Thus, BellSouth opposes both states that argue that studying rate center consolidation will unnecessarily delay pooling, as well as carriers that would require states to implement rate center consolidation prior to pooling, often targeting an

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18 Ameritech Comments at 34.

19 *Public Utility Commission of Texas Petition for Expedited Waiver of 47 CFR Section 52.19(d)(3)(ii) for Area Code Relief*, Order, 13 FCC Rcd 21798 (1998); *New York Department of Public Service Petition for Expedited Waiver of 47 CFR Section 52.19(c)(3)(ii)*, Order, 14 FCC Rcd 1842 (1998).

20 AT&T Comments at 33, GTE Comments at 43.

21 BellSouth Comments at 21, Cincinnati Bell Comments at 10, Nextlink Comments at 8-9.

arbitrary rate center reduction level.[22] Both proposals are well intentioned, but both are unnecessary.

In the first instance, as shown in the attached IMG report, exhaust of the NANP is not significantly hastened by any entity starting number pooling at any point in time.[23] The immediate and lasting benefits of pooling result from the contribution of numbers blocks to an available pool. The timing of the creation of the pool is relatively insignificant in terms of NANP exhaust. What concerns states is the current status of jeopardy NPAs within their jurisdictions.[24] But as the NANC has recognized,[25] as the Commission has recognized,[26] and as the industry has recognized, number pooling is not a method of area code relief.[27] Thus, pooling will not benefit any exhausting NPAs. Moreover, many states have already undertaken rate center studies.[28] For those states that haven't, there is ample time between now and the time national pooling standards are finalized to undertake such studies. Depending on the particularities of each locale, rate center consolidation studies need not always be a particularly lengthy or complicated process.

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22 AirTouch Comments at 4, PCIA Comments at 17.

23 IMG Report, Attachment A, § 3.

24 Florida PSC Comments at 4, New York Department of Public Service Comments at 2, Maine PUC Comments at 1.

25 Number Resource Optimization Working Group Modified Report to the North American Numbering Council on Number Optimization Methods, filed on Oct. 20, 1998.

26 *Petition for Declaratory Ruling and Request for Expedited Action on the July 15, 1997 Order of the Pennsylvania Public Utility Commission Regarding Area Codes 412, 610, 215 and 717; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Memorandum Opinion and Order and Order on Reconsideration, 13 FCC Rcd 19009, 19033 (1998); Numbering Resource Optimization, CC Docket 99-200, Notice of Proposed Rulemaking, released June 2, 1999 at ¶ 130.

27 USTA Comments at 8.

28 Colorado PUC Comments at 8.

By advocating that states be required to demonstrate that they have thoroughly examined rate center consolidation prior to implementing pooling, BellSouth does not mean to prejudge the results of any such examination. A number of states and carriers have raised a number of issues that must be considered if rate center consolidation can be practicable in any given case. Rate center consolidation can have significant impacts on carrier revenues, and therefore must only be done if it can be done on a revenue neutral basis. Other carriers have demonstrated that the effect of rate center consolidation on subsequent area code relief planning must also be thoroughly considered in order to avoid discriminatory impacts from the chosen relief plan.[29] Therefore, BellSouth does not advocate, as some have, that rate center consolidation must always be implemented prior to number pooling, or that states be required to reduce their rate centers to a specified percentage prior to implementing number pooling. Nevertheless, the optimizing effects that rate center consolidation has both on number exhaust and pooling demonstrate that whenever rate center consolidation is practical, when its benefits outweigh its costs, and when implementation can be done on a revenue neutral basis, it should be implemented prior to number pooling.

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[29] MCI Comments at 21.

III. THE COMMISSION SHOULD RETAIN AN INDUSTRY MODEL FOR NUMBER OPTIMIZATION

That much of the information filed in the comments has been aired and discussed in previous state and federal proceedings, as well as in industry workshops and forums, points to the need for an industry model for NANP optimization. Uniform definition categories of number usage are needed, and the work of the Industry Numbering Committee (INC) is a solid foundation that should be included in industry-developed guidelines.[30] These definitions should be subject to modification by the industry to reflect changes that may be necessary to further the goal of optimization. Thus, they should not be codified with the result that a formal rulemaking process would have to be initiated in order to achieve such desired modification.[31] The FCC should adopt a rule that endorses industry guidelines in effect without limiting the ability of industry groups to change the term definitions.[32]

The various industry-developed guidelines are fundamentally sound. The industry is currently at work strengthening the guidelines, and this work should be allowed to continue. The INC has recently revised the Central Office Code Assignment Guidelines to require each carrier to submit a "Months to Exhaust" (MTE) projection when requesting a growth code.[33] BellSouth supports the continued use of the MTE worksheet. BellSouth supports the proposal of

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30 NANPA Comments at 2-3.

31 GTE Comments at 10.

32 Ameritech Comments at 12.

33 Apparent "low utilization" should not preclude carriers from obtaining codes using the MTE methodology. (GTE Comments at p. 19, AT&T Comments at p. 15, Bell Atlantic Comments at p. 8). MCI states that service providers should be required to make a "satisfactory showing of need." MCI at 25. In BellSouth's experience, Growth codes are not a substantial factor in area code exhaust. *See* Georgia Public Service Commission, In re 912 Area Code Relief, Docket No. 90-66-U Direct Testimony of Thomas C. Foley on behalf of Lockheed Martin

the North Carolina Public Utilities Commission that, in order to obtain a new code, a carrier, at a minimum, must demonstrate to NANPA that it has state certification for the particular rate center where it is requesting the code.[34]

Ameritech correctly observes that all users of numbering resources should have the same obligation to report forecast and utilization data.[35] Large resellers (with a thousand or more numbers allocated to them) and Type 1 CMRS providers carriers should, for the sake of completeness, also be obligated to submit such data. Since the primary purpose of the routine reporting of forecast and utilization information is to accurately predict the exhaust of each NPA (and ultimately the NANP itself), there is no need to collect utilization information by each numbering category. However, carriers should be obligated to continuously track all numbering categories for audit or review purposes.

Reclamation authority should be clearly recognized in the NANP Administrator. Because guidelines that have been developed by the industry have worked well, all service providers should be obligated to abide by the guidelines.[36] The industry should determine whether reducing the intervals for when a new central office code is put into service is warranted. As RCN points out, shortening the six-month period for putting NXXs into service does not by itself resolve the numbering problem.[37] The FCC should not consider changing this time period. The NANPA should, however, reclaim idle NXX codes and thousands-blocks

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IMS at (August 19, 1999), p. 5, lines 21-24, (information on new entrants is not predictable, but the effects from normal growth are basically constant).

34 North Carolina PUC Comments at 5.

35 Ameritech Comments at 17.

36 *Id.* at 13.

37 AT&T Comments at 28, RCN Comments at 9.

pursuant to the existing industry guidelines. If service providers do not put assigned codes into service per the guidelines, then NANPA (and not state commissions) must reclaim them.

NANPA correctly points out that the Central Office Assignment Guidelines allow the NANPA to reclaim codes if the code has not been put into service within the six-month period specified in the industry guidelines (or a Part IV has not been returned).[38] In the event that a code recipient refuses to return a code to the NANPA, the NANPA could refer the matter to the Network Services Division for possible further referral to the Enforcement Bureau. While NANP should have the power to reclaim and withhold number resources as sanctions for violations of the Central Office Code Guidelines, the imposition of more severe penalties must only apply in clearly defined situations where carriers have the opportunity to respond and the ability to appeal.[39] Numbering policy, administration and enforcement must occur at the national level, and none of these functions should be delegated to states.[40]

Finally, a number of individuals have filed comments offering numbering solutions.[41] Some of these individuals have introduced these issues at industry forums, and many have been given thorough consideration. In addressing these proposals, the Commission should encourage those individuals who have not already done so to bring such proposals to the INC, so that issues can be framed and the proposals can be given careful consideration.

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38 NANPA Comments at 7.

39 Level 3 Communications Comments at 9.

40 *Id.*

41 *For example*, Comments of Carol Salva, Comments of Gilbert Yablon.

IV. OTHER NUMBERING OPTIMIZATION SOLUTIONS

Thousands-block Pooling. The IMG Report makes clear that there is time to implement number pooling in a rational phased approach where the benefits can be shown to exceed the costs. The Commission should therefore reject suggestions that number pooling be deployed in all MSAs in which LNP has been deployed.[42] Rather, the Commission should endorse a phased implementation of thousands block number pooling, based on where pooling may be most effective.[43] MCI's suggestion that the initial pools be created with unassigned NXX codes merits serious study.[44]

Although the NRO Report states that it will take approximately 19 months for service providers to implement number pooling, BellSouth agrees with US West that the development and testing of pooling will require time, and that current NPAC estimates do not include implementation and interoperability testing or other carrier-specific situations.[45] BellSouth Telecommunications, BellSouth's incumbent LEC affiliate, estimates that it will take 27 months to implement thousands block number pooling. This is due primarily to the required changes that must be made to key legacy systems which are different for each service provider.

Thousand Block Management (Sequential Number Assignment). BellSouth distinguished thousands block management from sequential number assignment in its comments. Whether comments refer to the process as thousands block management or sequential number management, the comments are near unanimous in their support for managing the telephone

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42 Bell Atlantic Comments at 23.

43 *E.g.*, SBC Comments at 68.

44 MCI Comments at 14.

45 US West Comments at 21.

resource in thousands blocks so as to preserve as many blocks as possible for possible number pooling.[46] Some carriers note the problems that sequential "true" sequential numbering will have on customer choice;[47] thousands block management allays these concerns.

Unassigned Number Porting (UNP). UNP is not a conservation measure but simply a way for one carrier to have access to the number resources of another carrier. It does not address any specific numbering problem and may not be compatible with thousands block pooling. UNP should not be allowed to occur even on a voluntary basis. If allowed, it will skew utilization and forecasting reports and may impact capacity on STPs and SCPs.[48] It will also require new administrative procedures and processes and divert resources from thousands block pooling implementation.

Moreover, the INC, in Issue 177, is currently examining UNP. The Commission should also note that the issue requests that "the INC should study and define the attributes of unassigned number porting in a service provider portability environment to meet a specific customer request of a service provider."[49] The focus of this docket is number resource optimization-- not the development of new marketing strategies. In as much as the industry has yet another UNP issue variant under proposal, and insofar as UNP has been carefully considered and dismissed by two prior working groups,[50] the Commission should neither require UNP nor countenance state efforts to require UNP.

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46 GTE Comments at 40, SBC Comments at 86, US West Comments at 20.

47 AT&T Comments at 52.

48 Bell Atlantic Comments at 22, SBC Comments at 92.

49 INC, Issue 177.

50 UNP has been laboriously considered at least twice in the past. The first Subject Matter Expert (SMR) group to study UNP was the Carrier Liaison Committee (CLC) Ad Hoc task force, that issued its NANC report to NANC on October 31, 1997; subsequently, the Numbering

Finally, Cox Communications proposes modifying the Business Rating Input Database System (BRIDS) in order to "permit individual telephone numbers to be associated with specific locations."[51] It is not at all clear that the costs of BRIDS modification are outweighed by its benefits, and Cox's swipe at incumbent LEC opposition to such modifications should be dismissed as the competitive rhetoric it is. The Cox proposal does not describe how calls would be routed; actual implementation would require more than simply recording additional rating data in BRIDS. Actual implementation would require substantial, costly and complex modifications to the systems that take the data from BRIDS and apply it to individual call records in order to produce customer bills.[52] Corresponding changes to the Routing Database System (RDBS) might also be required, although Cox does not address such changes in its comments. Stripped of its veneer, the Cox proposal looks suspiciously like geographic number (location) portability. It would be disastrous for number optimization to divert industry resources from workable, cost-effective near term solutions for unproven methods like UNP and BRIDS modification.

CONCLUSION

The IMG Report supports the implementation of thousand and block number pooling by technologically capable carriers, if necessary and cost effective, in a phased, controlled manner

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Resource Optimization (NRO) Working Group provided a report in this regard to NANC on October 20, 1998.

51 Cox Communications Comments at 4-7.

52 For BellSouth, these systems include CABAS, CRIS and SOCS. Currently there is no mechanized interface which will allow a direct or "real time" flow of LEC Service Order data into BRIDS. Thus, LECs would be required to manually enter 10-digit telephone numbers and associated rate center data. Cox Comments also fail to cover the effect on TeleCordia's monthly recurring "per record" charges, which could be staggering, if the data entry of 10,000 individual telephone numbers are considered 10,000 separate records.

CERTIFICATE OF SERVICE

I do hereby certify that I have this 30th day of August, 1999, served the following parties to this action with a copy of the foregoing ***BELLSOUTH REPLY***, reference CC Docket No. 99-200, RM No. 9258, NSD File No. L-99-17, and NSD File No. L-99-36, by hand delivery or by placing a true and correct copy of the same by Federal Express, addressed to the parties listed below.

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based on industry developed national standards. In the meantime, all service providers must be required to follow and adhere to industry-developed revised number allocation guidelines. As the leader of a national, uniform approach to number optimization, the Commission should encourage the transition to mandatory ten-digit dialing throughout the NANP, and recognize overlays as the area code relief method of choice. No state petition requesting additional delegated authority should be adopted during the pendency of this proceeding. The Commission should not allow the industry's resources to be diverted down the false paths of UNP and BRIDS modification.

Respectfully submitted,

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*VIA HAND DELIVERY

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ATTACHMENT A

NANC PARAGRAPH 165 ISSUE MANAGEMENT GROUP (IMG)
Effects of Thousand Block Pooling on NANP Exhaust

INTRODUCTION

This report contains the findings, recommendations, and conclusions of the NANC Paragraph 165 IMG related to its task described in CC Docket No. 99-200 (FCC 99-122), paragraph 165 as shown below:

165. *We seek comment on the assertions of CMRS carriers and state regulators regarding the potential numbering resource optimization benefits that would flow from covered CMRS participation in thousands-block number pooling. We also seek comment on the projections presented by the NANPA concerning the comparative impact on NANP exhaust depending on whether pooling includes or does not include CMRS participants. We recognize that the NANPA's projections have been criticized by some carriers, and that the NANPA has indicated that its efforts to project the impact of pooling on NANP exhaust are ongoing. Nevertheless, we believe that careful review and further analysis of the NANPA's number exhaust projections are essential to our evaluation of the issue of pooling participation by different industry segments. We commend the NANC for initiating this process by establishing a team to review the NANPA's projections in detail and submit its findings to the NANC. We encourage the NANC to submit any conclusions or recommendations that it may have regarding pooling, including pooling by CMRS carriers, based on the NANPA's projections or the team's findings. We also urge all participants in this proceeding to consider and comment on the Number Utilization Study and NANP Exhaust Study and any responses to the report as they pertain to CMRS participation in pooling.*

BACKGROUND

At the June 23, 1999 NANC meeting, the NANC formed an Issue Management Group (IMG) to address the FCC's request to the NANC contained in paragraph 165 of CC Docket No. 99-200 (FCC 99-122). The IMG held a number of conference calls to assess and get a better understanding of the NANP Exhaust Study dated April 22, 1999, prepared by NANPA/LM CIS (LM), and the Report of the NANP Exhaust Review Team dated May 3, 1999. Both of these documents are posted to the NANPA web site at nanpa.com. Because paragraph 165 was specific to pooling and its effects on NANP exhaust, the IMG focused heavily on the 1KB Pooling Model developed and used by LM to project the impact of thousand block pooling on NANP resources.

Some of the IMG were also members of the NANP Exhaust Review Team that worked with LM on the NANP Exhaust Study and had scrutinized its development. The IMG Participant List recognizes them. The members of the Review Team developed a report, the NANP Exhaust Review Team Report, that contained agreement on a set of revised assumptions which, when

input into the Model, produced different conclusions on NANP exhaust projections than those that were in the NANP Exhaust Study.

FINDINGS

As the NANP Exhaust Review Team had done, some members of the IMG suggested that LM make changes and adjustments to the Pooling Model[1] capabilities as well as the assumptions and data inputs that LM had used. LM noted that the suggested changes to the capabilities of the Pooling Model could not be accommodated without major revisions to the Model that would require significant time and effort. LM continued to express their view that the Models were performing as designed and that their assumptions and data inputs remain aligned with the various sources and references that were used in their formulation. The results of the NANP Exhaust Study, both with and without thousand block pooling, were still valid from LM's perspective. The IMG, as was the case with the NANP Exhaust Review Team, had differing views, which when applied to the Pooling Model would produce substantially different results.

The IMG's concerns were specific to the design of the Pooling Model, the assumptions that were used, and the NANP exhaust projections that LM obtained. Those concerns include the following:

1. The assumption used by LM that all industry segments would participate in pooling regardless of what is currently known, e.g. the Paging Segment has not been ordered to implement LNP at any point in time and the remainder of the CMRS industry segment has until November 24, 2002 to implement LNP.

2. The assumption used by LM that all segments would implement pooling at the same time (2000) even though Pooling is predicated on LNP and not all segments would be LNP capable as presented in item 1 above.

3. The Pooling Model's inability to implement pooling in any subset of the 206 assigned NPAs, e.g. the NPAs in the top 100 MSAs.

4. The Pooling Model's inability to accommodate pooling being implemented by any industry segment after the year 2003.

5. The assumption used by LM of the quantity of blocks contributed to pool, by segment, from footprint[2].

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[1] Lockheed Martin has presented several different "Models" to the NANC, some of which are dynamically linked to provide the final results for number pooling analysis. For the purposes of this report, these integrated modules will be considered as a single Pooling Model.

[2] For the purposes of the NANP Exhaust Study, "footprint" served as a term for CO codes used as a network address for billing and routing purposes, in essence, an initial code.

6. The assumption used by LM of the number of carriers in each segment that will be operating in mature rate centers[3]. There was concern that estimates of the number of carriers were too high, e.g. 7-12 PCS carriers.

7. The assumption used by LM of the maximum number of rate centers in which the CMRS and CLEC segments would be operating.

Based on these concerns, a number of the members of the IMG used both LM's assumptions and data sets and the review Team's assumptions and data sets as inputs to the LM Pooling Model to produce results. That work was brought to the IMG in the form of a contribution which, after review by the IMG, resulted in a number of additional findings. Presented below as part of this IMG report is the work product of several members of the IMG involving inputting LM's assumptions and data sets into the Pooling Model, which was discussed and debated by the full IMG. Areas of consensus from that work effort are provided in the appendix (Tables 1-5). The portion of the contribution which involved inputting the Review Team's assumptions and data sets is provided as the attachment to this IMG report, fully noting areas of concern or dissent.

1. Analysis Methodology

The basis for the IMG analysis is the Lockheed Martin NANP Exhaust Model. That model predicts various dates for NANP exhaust depending on a given set of input assumptions. Three sets of input assumptions have been presented to the industry. The first (see 1, below) is the set used for the results Lockheed Martin presented to the NANC which predicted exhaust of the NANP in 2008. The second and third were presented in the Report of the NANP Exhaust Review Team dated May 3, 1999. The second set of input assumptions differs from the third in that the later caps the number of "equivalent CLECs" at twenty where that number rises to thirty-one in the former.

This analysis takes each of these three Input Assumption Sets and varies three factors: (a) the year CMRS begins participating in 1KB Pooling, (b) the number of 1K blocks CMRS contributes from their "footprint" NXXs, and (c) the year ILECs and CLECs begin 1KB Pooling. None of these assumption sets consider paging to participate in pooling.

The first factor, the year CMRS begins participating in 1KB Pooling, uses values of 2001, 2002 and 2003. It would be valuable to use other values such as 2005, 2010 and 2020 but the Lockheed Martin model cannot accommodate years other than 2000 through 2003.

Two different values are considered for the second factor, the number of 1K blocks CMRS contributes from their "footprint" NXXs: seven per Lockheed Martin assumptions and one as suggested by BellSouth Mobility.

The third factor, the year ILECs and CLECs begin 1KB Pooling, takes values of 2000 as in the Lockheed Martin assumptions and 2001 which may be more realistic from an implementation standpoint.

As previously reported to the industry, the model yields the following results when implementation of 1KB Pooling is not undertaken by any segment:

[3] A "mature rate center" is one that has reached the point in time when the new entrant pipeline, for each segment, has reached its maximum.

Input Assumption Set	NANP Exhaust (no industry segment participates in 1KB Pooling)
(1) Lockheed Martin input assumptions used in its report to NANC (model name NPT10.xls.)	10/2008
(2) NANP Exhaust Study Review Team input assumptions (model name NPT10.xls with the modifications described in "Alternative Scenario Description" of "Report Of the NANP Exhaust Review Team, May 3, 1999.")	11/2016
(3) NANP Exhaust Study Review Team input assumptions "refined to cap of 20 "equivalent CLECs" (model name NPT10.xls with the modifications described in "Alternative Scenario Description" of "Report Of the NANP Exhaust Review Team, May 3, 1999" plus the "further refinement" described in the third paragraph of the "CO Code Demand Model" portion of the report.)	12/2023

In the Appendix, Tables 1, 2 and 3 tabulate the results of applying the above (a), (b) and (c) variations to Input Assumption Set (1), Input Assumption Set (2) and Input Assumption Set (3), respectively.

2. Observations of Tabular Results

Reviewing the data in Tables 1, 2 and 3, the reader will note that:

1. Using Input Assumption Set 1 (Lockheed Martin's), the Model predicts that CMRS participation in 1KB Pooling will extend the life of the NANP between 20.75 and 26.33 years or as far as September 2048.

   1.1. The overall life of the NANP is extended, at most, by only one year and eight months by requiring CMRS participation before 2003. (The actual date advances from June 2045 to October 2043.)

2. The results of Input Assumption Set 2 (NANP Exhaust Study Review Team) are that CMRS participation in 1KB Pooling will extend the life of the NANP, at best, from February 2042 to October 2044, a difference two years and eight months.

   2.1. Advancing CMRS participation in 1KB Pooling to 2001 from 2003 further extends the life of the NANP no more than one year, two months.

3. Input Assumption Set 3 (NANP Exhaust Study Review Team with CLEC cap), yields estimates that CMRS participation in 1KB Pooling will extend the life of the NANP only two years, four months at best.

   3.1 Advancing CMRS participation in 1KB Pooling to 2001 from 2003 extends the life of the NANP no more than one year, seven months)

3. Findings

In response to its charge this IMG offers the following to the NANC:

1) Advancing CMRS participation in 1KB Pooling from 2003 to an earlier year does not appreciably defer the exhaust of the NANP in any documented variation of the NANP Exhaust Model. The IMG found that the same is true for any industry segment, i.e., a delay in participation by any industry segment as isolated from the others produces a similar result. Table 4 demonstrates this finding by using input assumption set 1 (LM) and changing the date of pooling participation by all industry segments. See Table 4 in the appendix.

2) Neither of the NANP Exhaust Study Review Team Input Assumptions sets (2 and 3) yield an appreciable extension of NANP exhaust from CMRS participation in 1KB Pooling, while the Lockheed Martin Input Assumption set predicts a benefit of over 20 years. *This IMG finds that Lockheed Martin should be asked to review their input assumptions. Lockheed Martin should report the results of this effort to the NANC in 1Q00 and annually afterwards until the data proves or disproves the validity of the assumptions, to the satisfaction of the NANC.*

3) The Lockheed Martin NANP Exhaust Model only permits segment beginning participation in 1KB Pooling in the years 2000, 2001, 2002 and 2003. *This IMG finds that Lockheed Martin should be requested to enhance the model to cover other years. If there is great difficulty in offering a choice of more than four years, an additional copy of the model should be modified to offer choices of the years 2004, 2005, 2010 and 2015. Then the two models together will cover the critical years.*

4) The Lockheed Martin NANP Exhaust Model only permits study of the implementation of 1KB Pooling in all NPAs. *This IMG finds that Lockheed Martin be requested to enhance the model to allow the user to specify, by NPA, where the likelihood of 1KB Pooling is to be applied and to yield the resultant impact on NANP exhaust..*

5) Despite the limited impact of advancing an industry segment's participation in pooling by 2-3 years on the overall exhaust of the NANP, there are impacts in terms of the number of NPAs required through 2005. See Table 5 in the appendix.

RECOMMENDATIONS

1. Holding off CMRS participation in number pooling until after the time when they will be able to provide LNP (November 2002) does not have any significant impact on the NANP exhaust date.

2. The industry should continue to periodically evaluate the NANP Exhaust Study and work with LM to assess other optimization methods such as rate center consolidation. This recommendation is in line with the May 1999 NANC Action Item #7. "NANC will continue to discuss and examine a course of action relative to NANP exhaust and the effect of "other" optimization methods on exhaust..."

3. The Pooling Model should be enhanced to provide flexibility for inputs to be able to assess various scenarios and assumptions including:
   - Pooling implementation beyond 2003
   - Using individual or groups of NPAs as inputs

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Doug Birdwise	Stentor & CRTC				
Karen Mulberry	MCI WorldCom		x	x	x
Rob Hogarth	PCIA	x			x
Michelle Thomas	Omnipoint	x			
John Columbo	BellAtlantic		x	x	
Tom McGarry	LM-CIS		x	x	
Bill Schwebel	LM-CIS		x	x	
Jason Williams	NextLink		x	x	
Linda Goffery	AirTouch			x	
Rick Kemper	CTIA			x	x
Michele Young	BellSouth Cellular			x	x
Anna Miller	BellSouth Cellular			x	x
Chris Kennedy	AT&T			x	
Paul Hart	USTA				x

ATTACHMENT—IMG CONTRIBUTION BASED ON NANP EXHAUST REVIEW TEAM ASSUMPTIONS

ABSTRACT:

This contribution summarizes seven various number pooling scenarios based on the Lockheed Martin "Number Utilization Forecast and Trends" documents. These scenarios share a common set of assumptions which, with the exception of one adjustment, are directly based on the conclusions reached by the NANP Exhaust Review Team contained in their May 3, 1999 report. *This contribution appears separately because the IMG did not have time to reach consensus and fully resolve areas of controversy regarding the information provided and the observations. These areas of concern are indicated by footnotes where appropriate in this attachment.*

METHODOLOGY:

The NANPA Review Team reached the following conclusions:

1.) Reduce CMRS mature rate centers from 2749 to 2000 (approximately 10% of the wireline rate centers.)
2.) Reduce CLEC rate centers from 4386 to 2632 reflecting the fact that CLECs need not and often do not request an individual NXX per rate center.[5]
3.) The maximum number of PCS carriers was changed from 7-12 to six as this is the like maximum number of said carriers in a given area.
4.) CMRS/paging subscriber footprints were changed from 2.0% growth per yet to 0.5% growth per year. This estimate was also endorsed by CTIA and is consistent with BellSouth's history in this regard.
5.) Since no industry segment uses the incremental CO code per NPA/switch assumption, this factor was removed from the model.
6.) Paging carriers currently are not compelled to provide LNP, thus they cannot participate in pooling at this time. Thus, paging was removed from the 1K section of the model.

The NANPA Exhaust Review Team questioned, but did not make a written recommendation, regarding the unrealistically large number of CLECs in each geographic area. Based on a "1999 Status of United States Local Exchange Competition" report by the Strategis Group, the absolute maximum number of CLECs that each market can bear would be 12. (In reality, the Strategis report indicates that there will be up to 12 CLECs per market for a few years then the amount of CLECs will gradually reduce to 5-6 as a result of mergers, bankruptcies, acquisitions, etc. Nonetheless, the figure of 12 CLECs was used for the duration of the model. This number was incorporated into the model and is the 7th common assumption to all 10 scenarios.[6]

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[5] CLEC "footprints" are assumed to grow linearly at the rate of 2% per year throughout the years depicted on the LM model.

[6] Some members of the IMG objected to this paragraph on the basis that this information was not resolved by the Review Team, nor was there adequate time to fully discuss use of the information from the report by the Strategis Group. Supporters of the paragraph noted that the Review Team, despite its

SCENARIO DESCRIPTIONS[7]*:*

PARTICIPANTS	POOL START DATE	BLOCKS CONTRIBUTED	EXHAUST DATE WITH REVIEW TEAM ASSUMPTIONS
1.) NONE	N.A.	N.A.	2/2033
2.) CLEC ILEC CMRS	2000 N.A. N.A.	7 N.A. N.A.	6/2048
3.) CLEC ILEC CMRS	2000 2000 N.A.	7 3 N.A.	8/2051
4.) CLEC ILEC CMRS	2000 2000 2003	7 3 3	3/2059
5.) CLEC ILEC CMRS	2000 2000 2000	7 3 3	8/2060
6.) CLEC ILEC CMRS	2000 2000 2000	7 7 2	1/2062
7.) CLEC ILEC CMRS	2000 2000 2003	7 7 7	7/2062

criticism of LM's data point, had not provided a number to run in the model. They further noted that selection of this particular report to provide a number of CLECs was commensurate with LM's selection of data from the Donaldson, Lufkin, & Jenrette (DLJ) to support some of their model inputs. No agreement was reached by members of the IMG.

[7] When running the LM model in assumption set 4 and 7, the exhaust date varied by up to 9 months in either direction. LM has been requested to validate the model using assumption 4 and 7, as well as the other assumption sets. Assumption set 4 and 7 differ the other assumption sets in that the pool start date for CMRS is different than the pool start date for other industry segments. Additionally, assumption set 7 included a different quantity of blocks contributed for CMRS than other industry segments. Thus, it might be that the LM model was not designed to accommodate the extent of variables presented by assumption sets 4 and 7.

OBSERVATIONS[8]*:*

While not noted by the NANPA review team report, utilization data on the record combined with industry consensus that only 1K blocks with <10% contamination are eligible for donation to the pool, it is unrealistic to forecast return of 70% of existing 1K blocks. Scenarios 3, 4, 5 and 6 include highly conservative estimates using more likely block donation rates.

LNP capability is required for entities to participate in pooling. Scenarios 5 and 6 assume CMRS participation before the mandated deadline for CMRS LNP implementation. Thus, a regulatory mandate, followed by a detailed analysis of the technical feasibility of earlier CMRS participation must accompany these scenarios.

No CMRS participation in pooling at any point in time (Scenario #3) vs. CMRS entry in 2003 (Scenario #5) adds only seven years, five months (@12.2%) to NANP life. (This assumes that the pooling model can permit CMRS to join the pool after it is established.) A mere seventeen months (@2.3%) is added to NANP life if CMRS begins pooling participation in 2000 (scenario #5) vs. 2003 (scenario #4).

The overall shared and service provider-specific costs associated with pooling must be compared and assessed vs. the relative value to the public and the industry due to pooling. Other number conservation measures should be carefully assessed for potential of these measures to elongate NANP life, cost, human factors, relative technical and administrative burden prior to institution of pooling.

These scenarios suggest that CMRS participation in number pooling is neither necessary nor desirable considering the associated costs vs. the projected results and considering that the LM model cannot accommodate staggered entry of pooling participants.

[8] The members of the IMG did not reach agreement regarding these observations.

APPENDIX

Table 1: Results of Variations (a), (b) and (c) using Input Assumption Set (1)

ILEC Year Begins 1KB Pooling (Cell F18)	ILEC 1K Block Contribution (Cell H18)	CLEC Year Begins 1KB Pooling (Cell F17)	CLEC 1K Block Contribution (Cell H17)	CMRS Year Begins 1KB Pooling (Cell F15)	CMRS 1K Block Contribution (Cell H15)	NANP Exhaust Date (Cell F58)	Difference (years)
2000	*7*	*2000*	*7*	*none*	*NA*	*1/2023*	*Base case*
2000	7	2000	7	2001	7	9/2048	25.67
"	"	"	"	2002	"	8/2048	25.58
"	"	"	"	2003	"	6/2048	25.42
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?
2000	7	2000	7	2001	1	6/2045	22.42
"	"	"	"	2002	"	9/2044	21.67
"	"	"	"	2003	"	10/2043	20.75
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?
2001	*7*	*2001*	*7*	*none*	*NA*	*2/2022*	*Base case*
2001	7	2001	7	2001	7	6/2048	26.33
"	"	"	"	2002	"	6/2047	25.33
"	"	"	"	2003	"	4/2047	25.16
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?
2001	7	2001	7	2001	1	11/2044	22.75
"	"	"	"	2002	"	6/2044	22.33
"	"	"	"	2003	"	8/2043	21.50
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?

Table 2: Results of Variations (a), (b) and (c) using Input Assumption Set (2)

ILEC Year Begins 1KB Pooling (Cell F18)	ILEC 1K Block Contribution (Cell H18)	CLEC Year Begins 1KB Pooling (Cell F17)	CLEC 1K Block Contribution (Cell H17)	CMRS Year Begins 1KB Pooling (Cell F15)	CMRS 1K Block Contribution (Cell H15)	NANP Exhaust Date (Cell F58)	Difference (years)
2000	*7*	*2000*	*7*	*none*	*NA*	*2/2042*	*Base case*
2000	7	2000	7	2001	7	10/2044	2.67
"	"	"	"	2002	"	9/2044	2.58
"	"	"	"	2003	"	8/2044	2.50
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?
2000	7	2000	7	2001	1	11/2043	1.75
"	"	"	"	2002	"	1/2043	0.92
"	"	"	"	2003	"	9/2042	0.58
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?
2001	*7*	*2001*	*7*	*None*	*NA*	*1/2042*	*Base case*
2001	7	2001	7	2001	7	8/2044	2.58
"	"	"	"	2002	"	6/2044	2.42
"	"	"	"	2003	"	6/2044	2.42
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?
2001	7	2001	7	2001	1	4/2043	1.25
"	"	"	"	2002	"	1/2043	1.00
"	"	"	"	2003	"	4/2042	0.25
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?

Table 3: Results of Variations (a), (b) and (c) using Input Assumption Set (3)

ILEC Year Begins 1KB Pooling (Cell F18)	ILEC 1K Block Contribution (Cell H18)	CLEC Year Begins 1KB Pooling (Cell F17)	CLEC 1K Block Contribution (Cell H17)	CMRS Year Begins 1KB Pooling (Cell F15)	CMRS 1K Block Contribution (Cell H15)	NANP Exhaust Date (Cell F58)	Difference (years)
2000	*7*	*2000*	*7*	*None*	*NA*	*9/2043*	*Base case*
2000	7	2000	7	2001	7	1/2046	2.33
"	"	"	"	2002	"	1/2046	2.33
"	"	"	"	2003	"	11/2045	2.16
"	"	"	"	2005	"	*model fails*	*?*
"	"	"	"	2010	"	*model fails*	*?*
"	"	"	"	2020	"	*model fails*	*?*
2000	7	2000	7	2001	1	3/2045	1.5
"	"	"	"	2002	"	11/2044	1.16
"	"	"	"	2003	"	8/2044	0.92
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?
2001	*7*	*2001*	*7*	*None*	*NA*	*8/2043*	*Base case*
2001	7	2001	7	2001	7	11/2045	2.25
"	"	"	"	2002	"	11/2045	2.25
"	"	"	"	2003	"	9/2045	2.08
"	"	"	"	2005	"	*model fails*	*?*
"	"	"	"	2010	"	*model fails*	*?*
"	"	"	"	2020	"	*model fails*	*?*
2001	7	2001	7	2001	1	1/2045	1.42
"	"	"	"	2002	"	10/2044	1.16
"	"	"	"	2003	"	1/2044	0.42
"	"	"	"	2005	"	*model fails*	?
"	"	"	"	2010	"	*model fails*	?
"	"	"	"	2020	"	*model fails*	?

Table 4: Results of Varying the Year an Industry Segment Begins 1K Pooling

Year Industry Segment Begins 1KB Pooling				Predicted NANP Exhaust Date (See Notes)	Difference (years)
ILEC	CLEC	CMRS	Paging		
2000	2000	2000	NA	8/2048	*base case*
2003	2000	2000	NA	9/2048	+0.08
2000	**2003**	2000	NA	4/2047	-1.33
2000	2000	**2003**	NA	6/2048	-0.16
2000	2000	2000	2000	12/2094	*base case*
2003	2000	2000	2000	12/2094	0
2000	**2003**	2000	2000	12/2092	-2.00
2000	2000	**2003**	2000	8/2094	-0.33
2000	2000	2000	**2003**	8/2094	-0.33
2000	2000	**2003**	**2003**	10/2093	-0.83
2003	**2003**	2000	2000	12/2092	-2.00
2003	**2003**	**2003**	**2003**	2/2080	-14.25

Notes:

1) NANP Exhaust Date Values are as predicted by the Lockheed Martin NANP Exhaust Model
2) These values are obtained using Input Assumption Set 1 (Lockheed Martin's).
3) In all cases each industry segment is assumed to contribute seven (7) 1K blocks from each NXX for footprint.

TABLE 5: Demonstrating Impact to NPAs from 1999-2005 without pooling

	ILEC	CLEC	CMRS	Paging	NPAs Required 1999-2005
Pooling Begins	2000	2000	NA	NA	122
	2000	2000	2000	NA	71
	2000	2000	2000	2000	47
	2000	2000	2001	NA	80
	2000	2000	2001	2001	62
	2000	2000	2002	NA	96
	2000	2000	2002	2002	77
	2000	2000	2003	NA	100
	2000	2000	2003	2003	93
	2003	2003	2003	2003	162