

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's own Motion into Competition for Local Exchange Service.

R.95-04-043
(Filed April 26, 1998)

Order Instituting Investigation on the Commission's own Motion into Competition for Local Exchange Service.

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AUDIT REPORT ON THE 310 AREA CODE

(REDACTED VERSION)

Submitted in Compliance with CPUC Decision 00-09-073
Issued on September 21, 2000

**CALIFORNIA PUBLIC UTILITIES COMMISSION
TELECOMMUNICATIONS DIVISION**

Respectfully submitted
February 16, 2001

Jack Leutza, Director
Telecommunications Division
505 Van Ness Avenue, 3rd Floor
San Francisco, CA 94102

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REDACTED VERSION**

CALIFORNIA PUBLIC UTILITIES COMMISSION
TELECOMMUNICATIONS DIVISION

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Prepared by Telecommunications Division:

Michael Amato
Bishu Chatterjee
Herb Chow
Nathaniel Cole

Cherrie Conner
Stanton Puck
Craig Stevens
James Wuehler

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AUDIT REPORT ON THE 310 AREA CODE (310 AUDIT)

EXECUTIVE SUMMARY

The purpose of this audit of the 310 area code is to verify that wireline and wireless carriers reported accurate telephone number (TN) utilization data to the California Public Utilities Commission (CPUC) for the report on “The 310 Area Code” (*March 310 Report*).¹ This report provides the analysis and results of the CPUC staff audit (October-December 2000) of TN utilization data that carriers in the 310 area code submitted in compliance with Decision (D.) 99-09-067 in November 1999. Based on the utilization data that carriers submitted, the CPUC’s Telecommunications Division (TD) estimated approximately three million unused TNs in the 310 area code. In compliance with Decision (D.) 00-09-073 the CPUC staff undertook an audit of the 310 utilization data to provide a basis for determining the reliability of the data that carriers submitted for the *March 310 Report* before any area code relief plan is considered.

The audit examined the reported data of six carriers in the 310 area code.² In this audit report, staff proposes recommendations that may extend the life of the 310 area code and potentially other area codes by identifying problems with data inventory and reporting systems that these carriers use today. Staff finds that the six audited carriers did not use efficient and accurate data tracking systems to identify and report

¹ Report on the 310 Area Code (*March 310 Report*), Telecommunications Division, California Public Utilities Commission March 16, 2000. For the *March 310 Report* carriers submitted data in November 1999.

² Pacific Bell, Verizon California Inc.(formerly GTE California Inc.), WorldCom Technologies Inc.(formerly MCI Metro, ATS, Inc. and WorldCom Technologies Inc.), XO California Inc. (formerly Nextlink California Inc.), Sprint Spectrum L.P. dba Sprint PCS, and AT & T Wireless Services (formerly AB Cellular Holding, LLC.).

TN utilization data for the *March 310 Report*. Staff estimates 214,000³ additional unused TNs ($\pm 5\%$ error) that these carriers should have reported as Available above the three million unused TNs estimated in *March 310 Report*. Staff proposes that carriers make these 214,000 unused TNs available for customer use. Based on sampled carrier data and weighted assumptions, staff concludes that the probability of all carriers (including carriers who were not audited) reporting erroneous utilization data in the 310 area code is much higher than the findings from this audit.

The findings in this report include implications and recommendations for all carriers in the 310 area code. The *March 310 Report* findings focused on estimating unused TNs from carrier submitted data and examined TN utilization policies that were contrary to TN resource conservation practices. The 310 audit findings on the other hand focus on examining the accuracy of carrier reported data by investigating carriers' data systems in place. The following six key findings from the 310 Audit demonstrate that the TN inventory management practices and data reporting methodologies of the audited carriers require improvements.

- Carriers erroneously reported 214,000 TNs as unavailable instead of available for assignment.
- Carriers failed to provide historical data sources used to develop the utilization data reported to CPUC.
- Carriers had lengthy data retrieval processes.
- Carrier inventory database systems often displayed contradictory TN status which resulted in incorrect TN inventory reporting.
- Carriers keep TNs in reserve for extended periods inconsistent with Federal Communications Commission (FCC) requirements.
- Carriers do not adequately track Type 1 and ported out TNs.

³ Audit adjustments of 214,000 TNs are as follows: Pacific Bell - Verizon - , and Worldcom - The totals are rounded up figures.

Based on the audit findings, TD proposes the following summary of recommendations to carriers for efficient and accurate management of numbering resources. The first five recommendations validate the TN mismanagement practices that were addressed in the *March 310 Report*. The next nine recommendations are based on the audit findings. Carrier specific audit findings and recommendations are described in the individual carrier audit sections.

Summary of March 310 Report Recommendations Validated by the Audit

Assigned Numbers⁴

- 1. Carriers should make available all erroneously reported Assigned numbers and if applicable donate the 10% or less contaminated thousand blocks to the 310 pool.*
- 2. Carriers need to institute procedures to ensure that all TNs including Assigned numbers with pending service orders are in compliance with the current FCC and CPUC requirements for Assigned numbers.*

Administrative Numbers⁵

- 3. All carriers should conduct a periodic internal audit to determine the status of all numbers classified in their records as Administrative. Numbers not in use at the time of this audit should be made available for customer assignment.*

Reserved Numbers⁶

- 4. Carriers should adhere to the current maximum number of days (180 days) per FCC requirement for reserved numbers.*

⁴ Assigned TNs: Any working TNs, non-working TNs held by wireless companies assigned to customer equipment, and service orders for TNs that have been pending less than or equal to 30 days.

⁵ Administrative TNs: Working TNs used for internal business purposes, test numbers, E911 numbers

⁶ Reserved TNs: TNs for which service order is pending for customers over 31 days.

Type 1 Numbers⁷

5. *Delinquent wireless carriers holding Type 1 TNs who still have not reported number utilization data should immediately submit their utilization data. Failure to comply should subject carriers to penalties and sanctions.*

Summary of Recommendations Based on Audit Findings

Accurate and Efficient Internal Data Tracking System

6. *All telecommunications carriers should maintain efficient and accurate database systems that can update the status of TN inventories and store historic records of all utilization data submitted for future audit purposes.*
7. *Carriers should ensure that when a customer is disconnected permanently from the system, the inventory system and the switch receive the “final out orders” so that the two systems can be updated simultaneously.*
8. *Carriers should reconcile their telephone number inventory system with other systems such as the central office switch, customer profile database, and the pending order database to identify errors in the systems for corrective action.*

Report on excessive numbers

9. *Carriers should adjust 214,000 TNs from Assigned to Available as recommended by this audit and immediately arrange to return any excess TNs.*
10. *Carriers should institute appropriate procedures to control unnecessary telephone number reservations made by sales representatives so hoarding ranges of numbers can be avoided.*

⁷ Type 1 TNs: TNs that Local Exchange Carriers resell to a wireless carrier.

11. *Carriers should not assume that all TN ranges associated with a customer are working and assigned.*
12. *Carriers should not keep Available TNs as Reserved and if necessary, modify Centrex contracts that unnecessarily reserve a large number of available TNs.*

Tracking of Ported Out Numbers⁸ and Type 1 Numbers

13. *Carriers should track TNs that are ported out to other carriers and reported as assigned numbers. Carriers need to maintain updated records identifying the carrier receiving the ported numbers and the numbers ported.*
14. *Both the LECs and their Type 1 carriers should keep accurate and updated contact names and TN inventory records. When a Type 1 carrier goes out of business, Type 1 numbers need to be returned to the donating LEC.*

Audit Conclusions

Based on the audit findings, TD reaches three conclusions. First, carriers did not deliberately misreport their TN utilization data for the *March 310 Report*. Second, the audit authenticates the utilization data that carriers submitted for the *March 310 Report* except for the recommended TN adjustments as pointed out in this report. Third, the additional TNs found are not sufficient to extend the life of the 310 area code. The backup plan for the 310 area code should be implemented as directed in Decision 00-09-073.

⁸ Ported Out TNs: TNs that are ported out to other carriers and reported as Assigned.

1. INTRODUCTION

1.1 Audit Scope and Objective

The scope of the audit covered all data reported as of November 1999, including subsequent events. The 310 audit used generally accepted audit sample techniques to examine the validity of the data that carriers reported for the *March 310 Report* by TN category: Assigned, Administrative, Reserved, Aging, and Type 1 numbers.

1.2 Audit Sample

The *March 310 Report* compiled utilization data of 55 wireline and wireless carriers in the 310 area code. For purposes of this audit staff chose six of the 55 carriers that held the largest number of NXX codes (prefixes) in the 310 area code. TD staff selected two Local Exchange Carriers (LEC), two Competitive Local Exchange Carriers (CLEC), and two Wireless Carriers (WLS) to represent a broad cross section of the telecommunications industry. The six carriers are Pacific Bell, Verizon California Inc.(formerly GTE California Inc.), WorldCom Technologies Inc.(formerly MCI Metro, ATS, Inc. & WorldCom Technologies Inc.), XO California Inc.(formerly Nextlink California Inc), Sprint Spectrum L.P. dba Sprint PCS, and AT & T Wireless Services (formerly AB Cellular Holding, LLC).

Staff found that these six carriers jointly held 477 NXX codes or 66% of the total NXX Codes in the 310 area code as of November 1999. The 475 NXX codes (does not include special use codes) are distributed as follows: Pacific Bell - 247, Verizon - 141, Sprint PCS - 13, AT&T Wireless - 32, XO - 11, and Worldcom - 31. In conducting the audit, staff sampled appropriate TN blocks out of the entire population of 4.8 million TNs based on audit resources and time constraints. In some cases, staff audited all numbers in Assigned, Administrative, Reserved, and Aging categories. The sampling techniques varied among carriers. Additionally, staff examined the status of Type 1 numbers reported by the LECs.

1.3 The Telephone Number Inventory Database System

Each company employs complex database systems to manage their TN inventory, the customer billing, and the actual switching of telephone calls. These database systems vary among companies. Generally these systems change TN inventory status each time a customer connects or disconnects. Changes appear in the systems throughout the day, or the system is updated periodically throughout the week. For example with Aging TNs, when a customer connects, the inventory system shows that the TN is Assigned or unavailable. When the customer disconnects, the inventory system must show the TN unavailable and “aging” for a time so it will not be assigned too soon to a new customer. Similarly for Reserved TNs, each carrier usually assigns a period of time between the day the TN is assigned to a customer and the day it is connected for service. During this period the TN is “reserved” in the inventory system so it will not be assigned to another customer. At the end of the designated reserve period, if the TN has not been connected and the customer has not requested an extension of the reserve period, the inventory system automatically returns it to “available” status.

To report 310 utilization data carriers used the database systems to identify the status of working and non-working numbers. When reporting their 310 utilization data carriers provided a “snap-shot” showing their TN utilization at a specific date and time. Prior to the issuance of the Numbering Resource Optimization Order (NRO Order) by the FCC in March 2000⁹ there were no requirements for companies to maintain complete historical records of TN use. Therefore, none of the carriers audited maintained records of the “snap-shot” that was used to prepare the utilization data.

⁹ FCC 00-104, CC Docket 99-200, Released March 31, 2000.

This audit relied on archived data, current customer records, and in some instances on analytic assumptions of changes that took place between November 1999 carrier data reporting and the staff November 2000 audit. The following sections describe staff audit findings and staff recommendations for individual carriers. For detailed descriptions of individual carrier data source and staff audit methodology refer to Appendix A-1.

2. PACIFIC BELL

For the *March 310 Report*, Pacific Bell (PB) identified 2.5 million numbers in the 310 area code under CPCN number U1001C and OCN 9740. PB's numbers (247 NXXs) represented about 39.2 % of all TNs involved in the 310 area code utilization study. Staff's primary focus was to determine the reliability of TN utilization data that PB submitted for the *March 310 Report*. The staff examined PB's data inventory system and found ----- available TNs that PB erroneously identified as unavailable.

2.1 Audit Findings

Table 2-1 shows staff audit findings that PB erroneously reported ---- TNs (----- in Reserved and ----- in Type 1¹⁰ TNs) for the *March 310 Report*.

Table 2-1 Pacific Bell Summary of Audit Findings			
	March Report Data	Proposed Audit Adjustments	Audited Balance
Total TN's			
TN's			
Assigned (includes Intermediate Administrative Reserved Aging Type 1 (estimate from section 8)			
Available			
Donated to Pool			
Net Available TN			
(a) Special use TNs are not included in these numbers.			

Staff recommends that PB make these TNs available. Staff findings of PB's Reserved, Aging, and Assigned numbers are discussed in detail below. Staff did not

¹⁰ For Type 1 TN discussion see section 8.

identify any significant discrepancies in PB's Administrative TN utilization data submission.

Reserved Telephone Numbers

Staff found PB reported ----- TNs (table 2-1) as reserved for the *March 310 Report*. Of these ----- TNs, PB kept approximately ----- TNs in the reserved category over a year for PB's Centrex customers. Staff examined a sample of blocks to test the current status of those TNs. Under PB's current reserved number policy PB can reserve TNs for Centrex customers for up to one year with an additional six-month extension by customer request. In compliance with FCC's Second Numbering Resource Optimization Order,¹¹ PB should make ----- TNs available to customers and conform its customer agreements to the FCC's reserved number requirements.

Aging Telephone Numbers

Staff verified PB's internal system and found that PB reported ----- TNs as aging for the *March 310 Report* and ----- for the FCC NRUF. PB's system identifies the total TNs in aging but does not identify the numbers in aging by class of customers (business or residential) or report the length of time (60 days for residential customers versus twelve months for business customers) that a number is aged. PB did not maintain the data it used to develop TNs reported in the Aging category. Staff concluded no additional audit was needed based on PB data submitted.

Assigned Telephone Numbers

Staff found PB's reported TNs in the assigned category rose from ----- in the *March 310 Report* to ----- in the NRUF utilization data. This increase was assumed acceptable due to customer growth. Staff compared working TNs in the end

¹¹ The 45-day reserve period at the time of audit was subsequently changed to 180 days. FCC Docket No. CC 99-200 Released: December 7, 2000.

office switch with the working TNs ¹² identified in the *March 310 Report* at the thousand-number block level. More recent TN Bashes (see Appendix 1-A under PB) showed working TNs to be about --- percent higher than the TNs reported in the *March 310 Report*. This increase was similarly attributed to customer growth. Additionally, staff sampled assigned TNs from TN Bashes to PB's customer billing records and concluded that PB's billing system produced reliable information during November 1999 reporting.

2.2 Staff Recommendations

1. PB should update its internal database systems to clearly identify the status of each TN.
2. PB should maintain historical records of its number utilization reporting for future audit purposes.
3. PB should comply with the current FCC policy and free up ----- TNs that were reported as reserved in the *March 310 Report*.
4. PB's system should be able to identify its aging TNs by business and residential customer class and the period of time those TNs are aged.

¹² All Assigned, Intermediate and Administrative TNs in the 310 Utilization Study were considered working numbers for comparison with the TN Bashes.

3. VERIZON CALIFORNIA INC.

For the *March 310 Report*, Verizon California Inc.(Verizon), formerly GTE California Inc., identified 1.4 million numbers in the 310 area code under CPCN No. U1002C and OCN 2319. Verizon’s numbers (141 NXXs) represented about 19 % of all TNs involved in the 310 area code utilization study. Staff’s primary focus was to determine the November 1999 status of the 310 TNs held by Verizon and reported in the utilization report as either Assigned, Administrative, or Aging. Verizon did not report any TNs in the reserved category as they were either classified as Assigned or Available for the utilization study.

3.1 Audit Findings

Table 3-1 shows Verizon’s utilization data that was submitted for the *March 310 Report* and the TN adjustment of ----- TNs from the staff audit.

Table 3-1 Verizon Summary of Audit Findings			
	March Report Data	Proposed Audit Adjustments	Audited Balance
Total TN's			
TN's			
Assigned			
Administrative			
Reserved			
Aging			
Type 1 (estimate from section 8)			
Available			
Transferred to PB			
Donated to Pool			
Net Available TN			

Assigned Numbers

The TNs reported by Verizon in the assigned category of *March 310 Report* are overstated by about ---- numbers. Over ----- should have been shown as available had Verizon reported its numbers correctly.

“Reserved To Order” Classified As Assigned Numbers

Staff found that Verizon’s sales representatives were allowed to reserve numbers without any customer request on file. Once reserved, these numbers were blocked and set aside for future use. Numbers reserved in this way were classified as “reserved to order” and were erroneously included in “assigned” category in the utilization report contrary to the CPUC utilization guidelines. CPUC rules provide only for reserved numbers with service orders pending to be included in the assigned category for the CPUC utilization study.

Staff found several numbers reserved by sales representatives and blocked from future assignments that were never activated or working for any customer. Staff confirmed this practice by noting the absence of subsequent order activities for several numbers reserved by sales representatives. Moreover, staff found there were no controls in place to ensure that these numbers were unblocked and made available if the numbers were not activated within a reasonable period of time.

Staff concludes that most of the numbers classified as “reserved to order” were not at the request of specific customers, because Verizon could not provide any third party documentation to confirm that there was any reservation made by the end user or for how long. The only documentation Verizon could produce was internal e-mails from the sales representative to the TNAC (see Appendix A-1 under Verizon) asking for the range of numbers to be reserved.

Staff found that about ----- numbers which should have been classified as “reserved” and “available” instead were reported as “assigned” for the *March 310 Report*. As a result, Verizon did not report any numbers in its reserved category, contrary to the utilization study guidelines. Staff found that Verizon reported over --- numbers in the *March 310 Report* as Assigned with service orders pending when Verizon did not

have such service orders pending. These TNs were not working almost 12 months after Verizon submitted its utilization study data and should not have been reported as Assigned. Staff found that some of these TNs had been “reserved to order” for over 10 years and are still classified as such at the time of our audit despite the current FCC guidelines.¹³

“Suspended Numbers” Reported As Assigned

Staff selected about 1,000 TNs from the sample for review that were included in the Assigned category when the carrier’s internal records showed that these numbers were temporarily suspended because of customer non-payment. These TNs were not working in the public switch at the time of reporting the utilization data. Some of these TNs have been in this suspended status for over 11 years. This finding is contrary to Verizon’s stated policy of having numbers suspended for only 10 days. After 10 days such TNs are disconnected as a requirement and routed through the aging process for the purpose of making them Available. Verizon should have classified these TNs as Available in accordance with CPUC guidelines as many of these TNs had been in a suspended mode for an extremely long time prior to the date of the utilization report.

“Temporary” Classified As Assigned

Staff found that Verizon included in the Assigned category TNs that were classified internally in a “temporary” status pending service orders. Verizon did not provide any information about the time frame that such numbers are held on “reserve” status. Verizon claimed that these TNs remain in this status until the new due date of the order or until the order is canceled. It is only then that the TN would be returned to available status. However, staff found TNs in reserve status since 1984. These TNs should have been classified as available for the utilization study. Staff concludes this is a system error.

¹³ The 45 day reserve period at the time of audit was subsequently changed to 180 days FCC NRO 12/7/00.

Lack of Internal Controls

Verizon assumed in reporting the utilization data that all TN ranges in the inventory system included in the extract file with customer names were working and therefore classified as “assigned.” Staff found over ----- TNs were erroneously reported as assigned because of the error in the inventory system that had customer names associated with several thousands of numbers when they were actually available. This problem was caused partly by sales representatives obtaining ranges of numbers by providing a customer name in order to obtain the numbers. Staff concludes that lack of internal controls contributed to the system’s failure to update the records of such customers.

Staff verified TNs shown as available in Verizon’s raw data obtained from the inventory system and reflected in the extract file from the MARK system (see Appendix A-1 under Verizon) were erroneously classified and reported as assigned for the *March 310 Report* purposes. The staff was unable to confirm that about ----- TNs that the company indicated needed to be back-billed were actually assigned to customers. Staff found no records in Verizon’s database to establish that such numbers were assigned to these customers. Staff could not find billing records for these numbers either. However, after further research, staff found some of these numbers were actually working in the switch but that the billing system failed to bill the customers for such numbers.¹⁴

Staff was not able to confirm pertinent information on ported out numbers. Ported out numbers were classified as Assigned to avoid double counting of Available numbers. During the reporting period there was no requirement by the FCC or CPUC that carriers identify the receiving carriers of ported out numbers. The staff could not

¹⁴ Verizon asserts that some of these customers would be back-billed since the audit reveals that customers have not been billed when customers initiated service. According to Verizon, some of these customers have had service for over 10 years. However Verizon failed to explain to staff why this billing error occurred.

perform any reliable audit work for such numbers to verify the claims made by the native service provider. This problem was further compounded by the lack of an audit trail for such ported out numbers.

At the time of the audit, Verizon did not have adequate internal controls and procedures to ensure that it complies with current FCC and CPUC requirements for future utilization reporting and can efficiently manage all telephone numbers at its disposal. Staff found that Verizon did not perform periodic reconciliations between its various stand-alone systems, TN inventory system, the customer profile database, and billing records.

Staff concluded that Verizon had too many status categories for its TN inventory system, which caused problems in categorizing its TNs for the utilization report. Staff noted that the company had about 17 various categories for TN status compared to about 7 required for the *March 310 Report* or 6 required by the FCC. While 17 categories of TNs may be useful internally, staff concludes that this large number of categories is confusing and prone to errors. For example Verizon has a category called “other”. This same “other” category can be interpreted to mean about 7 different CPUC categories.

3.2 Staff Recommendations for Assigned Numbers

1. Verizon should institute appropriate procedures to control TN reservations made by its sales representatives. Verizon should institute follow-up procedures or feedback to ensure that sales representatives are not hoarding ranges of numbers with the hope of finding a customer.
2. Verizon should conduct a thorough review of its TN inventory system since staff found Verizon erroneously blocked out TNs for customers that did not

exist or TNs that were erroneously shown as Assigned to regular customers. All such hundred number ranges should be reclassified Available.

3. Verizon should periodically perform a comprehensive reconciliation of its TN inventory system with other systems such as the switch, customer profile database, and the pending order database to identify errors in its system for corrective action.
4. For future utilization studies, Verizon should refrain from using the assumption that all ranges associated with a customer name are validly working and assigned TNs for customers. Verizon should put controls and procedures in place to strengthen internal controls over the AAIS inventory system (see Appendix 1-A under Verizon) and use of customer names for blocking out ranges of numbers.
5. Verizon should ensure that when a customer is disconnected permanently from the system, the inventory system and the switch receive the “final out” orders so that the two systems are updated immediately.
6. Verizon needs to institute procedures to ensure that all TNs included as part of “assigned with service orders pending” are in compliance with the current FCC and CPUC requirements for assigned numbers.
7. The CPUC should consider creating another sub category within the Assigned category for numbers ported out numbers, as this would enable carriers to report this type of useful information. The CPUC should also consider requiring carriers receiving ported out numbers to file a separate report similar to the Type 1 filing for the numbers they have received from other carriers. This informational filing could be used in the future to audit numbers reported as “ported out” by the industry.
8. Verizon should align its inventory status categories with the FCC requirements to avoid errors caused by its excessive status categories.

Administrative Numbers

Staff found that Verizon overstated the reported Administrative numbers by about ----
----- TNs. -- of these TNs were actually available for assignment of which ---- 1000
blocks were uncontaminated and should have been donated to the pool. The
remaining numbers were customers' numbers erroneously reported as Administrative
numbers.

Staff found Verizon reported about ----- 1,000 uncontaminated blocks as
Administrative numbers that should have been reported as available numbers
because none of these blocks was used by Verizon for any administrative purpose.
These -- (Appendix A-2) numbers in uncontaminated thousand blocks should be
donated to the 310 number pool.

Staff found that Verizon reported -- thousand blocks as active TNs although banks of
hundred numbers were still not working or activated. Approximately ----- TNs
were erroneously reported in the *March 310 Report* as working administrative
numbers. Verizon did not provide the staff any justification for reporting available
numbers as Administrative, neither did Verizon provide staff with any future growth
or expansion plans to justify having several inactivated thousand blocks set aside.

Staff found TNs classified as Administrative numbers were instead Assigned to
customers contrary to the definitions in the *March 310 Report* guidelines. This
appears to be an internal error that was a result of system inability to properly
separate customer numbers from Administrative numbers.

3.3 Staff Recommendations for Administrative Numbers

1. Verizon should not contaminate any of the uncontaminated 1,000 blocks it erroneously included in the Administrative category. These blocks should be donated to the pool immediately.
2. Verizon should free up the ---- non-working additional numbers classified as Administrative numbers. These sequential ranges of numbers should be made available for assignment to customers.
3. Verizon should conduct an internal audit to determine the status of all numbers classified in its records as Administrative. Verizon's internal audit should confirm that such numbers as Administrative numbers and not customer numbers. All customers numbers should be reported as part of Assigned numbers.

Reserved Numbers

By placing Reserved numbers in the assigned category, Verizon reserved numbers and overstated Assigned numbers. About ----- numbers were misplaced.

Staff found Verizon held reserved numbers in its internal records for excessively long periods of time prior to the CPUC utilization report study. Subsequently, these numbers are still classified as Reserved "for general purpose". Keeping over -- numbers in "perpetual reserve" for over 5 years when those numbers are actually available, meant that the numbers assigned by Verizon in general would not comply with the sequential numbering requirement. Verizon is also not complying with the current FCC requirement that service providers "shall assign all available numbers within an opened thousand blocks".

Staff found that Verizon attempted to justify this "perpetual reserve" by claiming that these TNs form the 6-month inventory it is allowed to keep. While this is true,

Verizon failed to consider its effect on sequential assignment, and the current requirement that all service providers shall assign 100% of available TNs within an opened thousand block. In addition, the new FCC rules require that “Numbers held for specific end users or customers for more than 180 days shall not be classified as Reserved numbers.” There are no specific end users for hundreds of numbers classified as reserved in Verizon’s inventory system as the numbers are only classified as “reserved for general purpose”. (see Appendix A-3 Table).

Staff found that some of the Reserved numbers reported as Assigned were only covered by contracts approved under Advice Letters and did not have a pending service order. Furthermore, some of the Advice Letters stipulated that the service provider could reclaim such numbers if the customers do not utilize 70% of the code capacity within three years. The staff review revealed that in some cases 70% of the code capacity was not utilized and uncontaminated thousand blocks were not activated within 3 - 5 years.

These numbers also were not activated at the time of the utilization report and should either have been classified as Available or Reserved. However, such numbers were erroneously shown as Assigned in the utilization report. Verizon failed to comply with the guidelines for the utilization study by failing to institute procedures to confirm and document reservations to the end user. In addition to having the number reserved, Verizon should also have placed some restrictions on the duration and quantity of those reserved numbers.

3.4 Staff Recommendations for Reserved Numbers

1. Verizon needs to implement procedures to ensure that it complies with the FCC requirements for reserved numbers. Verizon should make sure that ranges of numbers classified as Reserved are assigned to an end user.

2. Verizon should implement procedures to ensure that it adheres to the current FCC requirement of 180 days for reserved numbers.

Aging Numbers

Staff traced the reported numbers in the Aging number category to the raw data file used in the preparation of the utilization report. Staff found no significant differences between what was reported and what was in the data file.

4. WORLDCOM TECHNOLOGIES INC.

For the *March 310 Report*, MCI/WorldCom (WorldCom), formerly MCI and Worldcom, identified 0.3 million numbers in the 310 area code under CPCN numbers U5253C and U5378C, and OCN numbers 7229 and 7240. WorldCom's numbers (31 NXXs) represented about 4.2 % of all TNs involved in the 310 area code utilization study. Staff's primary focus was to determine the reliability of TN utilization data that Worldcom Technologies Inc. (WorldCom) submitted for the *March 310 Report*. The staff audit concludes that Worldcom should make ----- TNs available.

4.1 Audit Findings

The Table 4-1 shows the utilization data as reported. Staff findings show WorldCom should have reported ----- TNs as available in November 1999.

Table 4-1 WorldCom <i>March 310 Report</i> Data with Audit Adjustments			
	March Report Data	Proposed Audit Adjustments	Audited Balance
Total TN's			
TN's Assigned Administrative Reserved Aging			
Available		-	
Donated to Pool			
Net Available		-	

Staff's audit found that the sampled TNs for the formerly MCI could all be validated in the current system. This led staff to the opinion that the assigned numbers reported in MCI's 310 Utilization Study are reasonably accurate.

Administrative Numbers

Staff found that the Administrative TNs reported by WorldCom did not meet the definition of Administrative TNs for the *March 310 Report* or the FCC NRUF Report. WorldCom should only report the actual number of TNs used in the administrative category and not set aside TNs for administrative purpose when they are not being used. Staff found over ----- unused TNs that are kept in Administrative status and should be changed from Administrative to Available status.

Reserved Numbers

Staff found that the databases used to report number utilization for the *March 310 Report* contained over --- Reserved TNs in the 1000-1999 range in --- of ----- NXX codes. Staff found these TNs were reported in the reserved category as "Number Administration." Normally, the TNIS and NRM systems (see Appendix A-1 under WorldCom for database systems) automatically change reserved TNs to available status after 60 days. However, the normal reservation functions would not return the expired TNs to available status after 60 days due to TNs listed as "Number Administration." Staff was told that WorldCom would return all its reserved numbers under "Number Administration" to Available or Assigned as appropriate. The correction of the "Number Administration" could result in over ----- TNs being changed to available status. Staff recommends that TD follow up on WorldCom's Reserved TN status and WorldCom should report the results of corrected TN status.

Staff found WorldCom's NRM system (see Appendix A 1 under WorldCom) turned off the function that returned TNs from reserved to available status between August 1999 to October 1999 that could have possibly overstated WorldCom's Reserved

TNs. Consequently, it is possible that some of the -- TNs reported as Reserved in the *March 310 Report* were overstated. Since the *March 310 Report* data submission, WorldCom has corrected the function and ----- TNs are reported as Available. Staff recommends that WorldCom periodically review its internal systems to ensure that the systems function properly.

4.2 Staff Recommendations

1. WorldCom should only report actual TNs used in the Administrative category and should not “reserve” Administrative numbers. This should reduce the reported Administrative TNs by over -----.
2. WorldCom should complete the clean up of its reserved TNs and report the results to the CPUC. This could result in over ---- TNs being added to the pool of Available TNs.
3. WorldCom should periodically review its internal systems to ensure that the systems contain accurate data of TN use.

5. XO CALIFORNIA INC.

For the *March 310 Report*, XO California, Inc. (XO), formerly Nextlink California Inc., identified 0.1 numbers in the 310 area code under CPCN number U5553C and OCN 7262. XO's numbers (11 NXXs) represented about 1.5% of all TNs involved in the 310 area code utilization study. Staff's primary focus was to determine the reliability of TN utilization data that XO submitted for the *March 310 Report*. Staff audit concludes that XO accurately reported its utilization data in November 1999.

5.1 Audit Findings

Table 5 -1 XO California (formerly Nextlink) March 310 Report Data with Audit Adjustments		
	March Report Data	Proposed Audit Adjustments
Total TN's		
TN's Assigned Administrative Reserved		
Aging Available	_____	
Donated to Pool	_____	_____
Net Available after Donations	_____	

Table 5-1 contains the numbers reported in the 310 Utilization Study.

Table 5-1 shows that the staff audit does not propose any adjustments to XO's reported utilization data submitted in November 1999.

Staff analyzed XO's relatively small number of TNs in the 310 area code and found XO donated ----- TNs to the 310 number pool. Staff found a ----- difference between the utilization data that was submitted for the *March 310 Report* and the utilization data used during the audit. Staff concludes much of the difference due to ---- TNs reported as Reserved that should have been reported as Assigned. Additionally staff concludes that the remainder of the differences could have been human error in compiling the data for *March 310 Report* as well as time difference in data compiling between the *March 310 Report* and the audit.

Staff found that XO had a large number of Available TNs in November 1999, but XO donated most of these TNs to the pool in February 2000. XO increased its Assigned TNs more than --- times in the seven months between the *March 310 Report* and the FCC NRUF Report, largely due to -----.

The difference in Reserved, Administrative, and Aging TNs that were reported for the *March 310 Report* and the FCC NRUF Report were relatively small. Staff verification concludes that XO had appropriately reported these numbers.

5.2 Staff Recommendations

1. XO should ensure that its new reporting system reports Reserved TNs properly.

6. SPRINT SPECTRUM PCS

For the *March 310 Report*, Sprint Spectrum (Sprint) identified 0.1 numbers in the 310 area code under CPCN number U3064C and OCN numbers 6691 and 8941. Sprint's numbers (13 NXXs) represented about 1.8 % of all TNs involved in the 310 area code utilization study. Staff's primary focus was to determine the reliability of TN utilization data that Sprint submitted for the *March 310 Report*. Staff audit concludes that Sprint reported accurate utilization data.

6.1 Audit Findings

Table 6-1 shows that total TNs by category as reported by Sprint for the *March 310 Report* were accurate and no adjustments to TN utilization data are required.

Table 6 - 1 Sprint PCS Reported in the 310 Utilization Report		
	March Report Data	Proposed Audit Adjustments
Total TN's		
TN's Assigned Administrative Reserved Aging Available		
Donated to Pool Net Available after Donations	-	

Staff found that Sprint has an automatic 90-day aging interval, unless superseded by a state order that establishes a shorter period. However, Sprint used a 60-day period for Aging TNs at the time of the *March 310 Report*. CPUC staff was informed that if necessary Sprint will manually release a TN before the aging cycle is completed.

Staff examined Sprint's reserved TN policy. At the time of the *March 310 Report* Sprint had no policy with regard to the release of reserved TNs. Sprint has since implemented a manual review process to ensure that reserved TNs do not remain more than 45 days in reserve.¹⁵ Sprint should review its reporting procedure to ensure that the aging TNs are reported correctly.

Staff found exceptions of less than ----- for the Assigned TNs in the audit sample. Therefore, staff concluded that Sprint's TN management system reports the Assigned TNs accurately.

6.2 Staff Recommendations

1. Sprint should automate the entire TN reporting system to eliminate the potential of human error in its reports.
2. Sprint should also review its reporting procedures to ensure that the aging TNs are reported correctly.

¹⁵The 45-day maximum reserve requirement has been increased to 180 days by FCC's 2nd NRO Order, December 7, 2000.

7. AT&T WIRELESS SERVICES

For the *March 310 Report*, AT & T Wireless Services (AWS), formerly AB Cellular Holding (AB) LLC, identified 0.3 numbers in the 310 area code under CPCN number U3009C and OCN 6228. AB’s numbers (32 NXXs) represented about 4.4 % of all TNs involved in the 310 area code utilization study. Staff’s primary focus was to determine the reliability of TN utilization data that AWS submitted for the *March 310 Report*. Staff audit concludes that AWS reported accurate utilization data.

7.1 Audit Findings

Table 7-1 shows the usage patterns reported by AWS in *March 310 Report*. Staff concludes that the 310 audit does not propose any TN adjustments of AWS reported utilization data in November 1999.

Table 7 – 1 AT&T Wireless Services <i>March 310 Report</i> Data with Audit Adjustments		
	March Report Data	Proposed Audit Adjustments
Total TN's		
TN's		
Assigned		
Administrative		
Reserved		
Aging		
Available		
Donated to Pool		
Net Available after Donations		

Staff found that AWS did not reserve TNs for end-users but reserved TNs that were assigned to resellers, at the reseller’s request. AWS’s MacroCell system (for details see Appendix A-1 under AWS data source) can track the reserved status of reseller’s TNs but reported reseller’s TNs as Reserved and not Assigned. Reseller’s TNs should have been reported as Assigned and not as Reserved. AWS stated that all

reseller TNs would be reported as Assigned in the future. AWS ----- reported --- TNs in the Reserved category, so staff did not pursue this audit any further.

Staff found that --- of the ---- Administrative TNs that AWS reported were for Temporary Location Directory Numbers (TLDNs). A TLDN number is used to register a wireless phone that roams out of its assigned area code. AWS used a formula to determine the number of TLDNs based on the number of roamers in the area covered by a switch. Staff found out that one set of TLDNs are kept for each switch. AB used one switch for the 310 area code.

AWS could not identify the exact date when *March 310 Report* data was extracted from AB MacroCell system. Further, AWS informed the CPUC staff that the people who did the work were not available to assist with the audit. So the staff focused on the TN status as of November 30, 1999. Staff found that AWS reported ----% more TNs to be Available as of November 1999 for the *March 310 Report*. Staff believes this difference to be reasonable for three reasons. First, wireless companies have a high customer turnover or “churn” rate, so some data relating to customers who dropped between November 1999 and April 2000 might have been lost in the conversion from the AB billing system to the AWS billing system. Second, the uncertainty regarding the exact date the 310 utilization data was extracted can cause timing differences. Third, the 310 utilization data could have included manual errors in compiling the data. Staff concludes that the difference between the *March 310 Report* data and the data at the time of audit is less than ---- percent and the TNs reported in the *March 310 Report* were accurate.

7.2 Staff Recommendations

1. AWS should maintain a back up copy of its reports in compliance with the new FCC guidelines. The back up should include the date of the data used in the reports. All back up data should be available in one location so that it can

be accessed and identified even if the employee who prepares the data is no longer available.

8. Type 1 Numbers

Staff examined the status of unreported Type 1 numbers to follow up on those Type 1 carriers who did not submit utilization data for the *March 310 Report*. Staff found --- unused Type 1 TNs that were mistakenly reported as Assigned. The audit was unable to resolve the status of 234,000 unresolved Type 1 TNs held by Type 1 carriers that failed to report. Staff recommends penalties and sanctions be imposed on these carriers in order to resolve the status of all Type 1 TNs.

8.1 Type 1 Number Arrangements

The Type 1 interconnection is a connection between a mobile/wireless service provider and a wireline LEC for the purpose of originating and terminating traffic or for access to end user services (i.e. Directory Assistance, Operator Services, 911 etc).¹⁶ Type 1 interconnections are provided under an FCC section 251 and 252 interconnection agreement. Under a section 251/252 agreement an LEC that receives numbers from NANPA (North American Numbering Administration) provides TNs to smaller wireless carriers such as paging and cellular companies. Since smaller wireless carriers do not individually require a whole NXX code (10,000 numbers) to provide service to their customers, they obtain numbers in blocks of 100 from the LECs.

Many Type 1 carriers such as paging companies argued that they are not regulated by the CPUC and need not respond to the CPUC data requests. However, the CPUC is delegated a grant of authority by the FCC to adopt statewide rules requiring carriers to efficiently manage TNs because the FCC has deemed TNs a public resource. For purposes of exercising the delegated authority over numbers, the CPUC subsequently has authority over paging companies.

¹⁶ For a detailed description see Attachment A, of the CPUC ALJ Ruling regarding 310 NPA Code Utilization Study Parameters, Nov 3, 1999.

Accurate reporting of Type 1 utilization data by LECs and Type 1 carriers is imperative because 310 is in number pooling. Even though excess TNs wireless carriers hold are not eligible for number pooling, Type 1 TNs held by wireless carriers are eligible for number pooling since any excess Type 1 TNs will be returned to the originating wireline carrier.

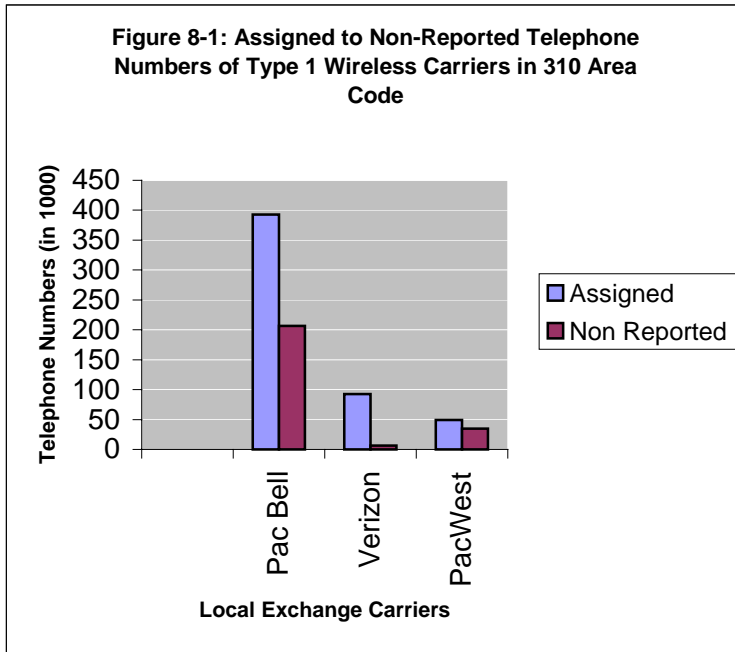
8.2 Audit Findings

As indicated in the *March 310 Report*, many Type 1 carriers did not submit data to the CPUC, leaving 240,000 TNs or about 47% of the Type 1 utilization data unaccounted for. Figure 8-1 (next page) shows the breakdowns of all Assigned to non-reported Type-1 numbers for each LEC in 310 area code. Figure 8-1 also includes data reported by PacWest, a LEC in 310 area code¹⁷. Appendices A-5 and A-6 show the Type 1 TN distribution of PB and Verizon by rate centers in the 310 area code. Of the Type 1 TNs assigned, staff found that % of PB and % of Verizon's Type 1 numbers were reported.

Staff identified ----- unused Type 1 numbers that PB erroneously reported as unavailable. PB has confirmed that it was not billing these Type 1 carriers and those TNs were erroneously reported. PB could not identify at the time of audit how many of the ----- TNs it will donate but informed the staff that PB will donate all eligible thousand blocks to the 310 number pool.

¹⁷ See Appendix A-4 for details of all Type 1 numbers assigned by three LECs in the 310 area code.

Staff found Verizon did not erroneously report available Type 1 TNs as unavailable.
Staff found 39 delinquent Type 1 carriers. (for a list, see Appendix A-6).



Source: *March 310 Report* data

8.3 Staff Recommendations

1. Delinquent wireless carriers holding Type 1 numbers who still have not reported on their number utilization should immediately submit TN utilization data. These carriers should also be required to return any excess available TNs to the originating LECs. The Type 1 wireless carriers that fail to respond to this final data requests should be subject to CPUC directed penalties and sanctions.
2. LECs providing Type 1 numbers need to keep accurate information records of Type 1 carriers including contact names and addresses, TN inventory, and business status. When a Type 1 carrier goes out of business it must report its status to the originating LEC and return all of its TNs to the originating LECs.

3. When LECs receive returned Type 1 numbers, they should review the effect of those additional available numbers on their six month inventory and donate any excess eligible thousands blocks to the Pooling Administrator or NANPA as applicable.

APPENDICES

A-1 CARRIER DATA SOURCE AND AUDIT METHODOLOGY

PACIFIC BELL

Data Source and Number Inventory Systems

Staff investigation of the TN tracking systems found that PB uses three different but interconnecting systems: (a) the end-office switch database, (b) the TN inventory management, and (c) the customer billing. The end-office switch database maintains all active (connected with a dial tone) TNs. The TN inventory management system tracks the status of all available TNs. The billing system tracks customer billings. PB compiled the utilization data manually from its three internal systems for its report to the CPUC in November 1999.

PB's three TN inventory systems often did not match to reflect accurate TN status. For example, if a TN (310) 123 4567 appeared as assigned in the billing system the same TN (310) 123 4567 appeared as available in its inventory management system. Due to discrepancies found in its internal systems, PB contracted (between August 1999 and October 2000) with an outside vendor to reconcile PB's three TN inventory systems mismatch (TN Bashes). TN Bashes reconciled TN inventory management and billing systems against PB's end-office switch system.

Audit Methodology

PB did not maintain a backup copy used to develop the utilization data submitted to CPUC. Additionally the PB employees responsible for compiling the 310 utilization data were no longer available during the audit. The staff used two comparison methods to conduct PB's TN audit.

Method (1) Comparison of PB reported TNs in 310 utilization data (November 1999) to the TNs reported in the FCC NRUF¹⁸ utilization data (June 2000). Staff analyzed TNs in the assigned, administrative, reserved, aging, and Type 1 TNs that PB reported for the *March 310 Report* and the NRUF Report. In comparing the utilization data for the *March 310 Report* with the NRUF utilization data, the staff took into consideration differences in reporting requirements and reporting dates for these two reports.

Method (2) Comparison of PB reported TNs for the March 310 Report (November 1999) to TNs found in completed TN Bashes from PB's internal database systems (August 1999 to October 2000). Staff compared data from the TN Bashes with the *March 310 Report* data to look for significant differences. The TN Bashes provided data on sixteen switches and seventy-two percent of PB's Assigned TNs. The TN Bashes showed the Assigned, Intermediate, and Administrative TNs as working numbers and the Reserved, Aging, and Available TNs as not working numbers. At the time of *March 310 Report* data submission (November 1999), PB could not reconcile all the errors in its systems through TN Bashes. Based on its investigation, staff concluded PB's end office switch system was more reliable than the other two systems.

VERIZON

Data Source and Number Inventory Systems

The staff found that Verizon's utilization data was filed by its Telephone Number Administration Center, (TNAC) based in Lewisville, Texas. The TNAC handles the

¹⁸ The FCC required all carriers to provide utilization data for its Numbering Resource Utilization/Forecast (NRUF) Report, August 2000.

provisioning, activation, and maintenance of Verizon's TNs nationwide and performs activities related to Local Number Portability and Number Pooling.

Verizon prepared its November 1999 utilization data using the Mechanized Assignment & Record Keeping (MARK), a mainframe based system for its TN inventory administration. However, in April of 2000, Verizon changed that system, to a web-based client server application called the Activation, Assignment & Inventory System (AAIS). The new AAIS maintains information for all telephone numbers, switch data, outside plant facility and terminal information.

The staff verified that Verizon's MARK system maintained 17 different categories of TNs. Verizon reclassified those 17 categories of TNs into respective thousand blocks to conform to the CPUC defined TN categories for the *March 310 Report*. Staff tested the source data from the MARK system via an extracted file. The extracted file contained each TN range by quantity and not by individual phone numbers. The extracted file also contained the customer names and telephone numbers for certain classes of business customers with Direct Inward Dial (DID) and Centrex services. Additionally the extracted file also provided information on Verizon's administrative numbers.

Audit Methodology

The staff was able to associate some customer names with actual TNs in Verizon's telephone number inventory system. Staff found TN ranges with names mostly for large business customers. TN ranges (consecutive TNs in a block of numbers) that did not have names were for residential, small businesses and other customers. The staff then grouped TNs with customer names to select an audit sample.

Staff found that Verizon's MARK system updated TNs in "real time" to store current data and did not keep historic data. As a result Verizon could not provide any record

to the staff to verify the status of the TNs reported in the November 1999 utilization data. The staff used a combination of current and archived data in verifying the status of the TNs as of November 1999. The staff conducted detailed analysis that included reviewing the current inventory system, customer profiles, billing, and some telephone number history archived.

In addition, staff requested and obtained input work sheets created from the extract file for the months of December 1999, January, September, and October 2000 and prepared a comparative analysis for these months covering all the 1000 number blocks in the 310 area code assigned to Verizon. Staff focused on the changes that had occurred in the assigned category between the date of the utilization report and the staff audit. This analysis helped determine which thousand blocks needed additional review during the audit.

A. Business Customers

The staff stratified the data sample to minimize higher risks of reporting error that could result in a minimum of 20 to a maximum of 1000 numbers being misclassified in the utilization data submitted. Verizon automatically classified DID/Centrex service TN ranges (20 to maximum of 1000) that had customer names in the extract file as working and assigned for the purposes of utilization data reporting

During the audit, staff reviewed 100% of all customers with ranges of sequential TNs of more than 100 and randomly selected samples with 20 – 100 sequential numbers. Staff reviewed about ----- TNs out of a total of approximately ---- numbers. Staff examined the customer profile database for all the business customers selected for review and confirmed the current status of TNs and the initial service dates. For those customers with initial service dates subsequent to November 1999 or for which a change, such as transfer, disconnect, or new service occurred after November 1999, staff further audited the billing records and the telephone number archive to obtain

the history of that particular number or range of numbers in order to determine the status as of November 1999.

B. Small Business/ Non DID/ Residential Customers

The staff randomly selected approximately -- 1000 number blocks from the remaining TN ranges of Small Business/ Non DID/ Residential customers to verify the accuracy of these blocks reported in the utilization data. In order to do this staff obtained the AAIS status detail and last activity detail for each of the selected thousand blocks for review.

Staff reviewed the customer profile to verify the initial service dates for those numbers that staff was unable to confirm from November 1999 AAIS detail. If there was no switch activity from the initial service dates or the last activity was prior to November 1999, then the current status is the same as the one reported in the utilization report. In addition, the staff performed audit procedures for those numbers reviewed with initial service dates subsequent to November 1999 or for which a change, such as transfer, disconnect, new service etc. occurred after November 1999. Finally staff accessed the telephone number archives to obtain the history of a particular number in order to determine the status as of November 1999.

In addition to the ----- TNs selected above, staff obtained another 600 AAIS extract data files in Excel spreadsheets for about ----- numbers. These files were part of the ranges that did not have any associated customer names. Staff was able to confirm the November 1999 status based on 50% of the sampled data

WORLDCOM

Data Source and Number Inventory Systems

Staff found that before the utilization data submission MCI Metro, ATS, Inc. (MCI) and Worldcom Technologies Inc. (WC Tech.) merged as Worldcom. In November 1999 when the *March 310 Report* was prepared, WorldCom had two TN inventory management systems, one each from MCI and WC Tech. MCI used a system called Number Resource Management (NRM) and WC Tech. used a system called Telephone Number Inventory System (TNIS). In June 2000 all TN management for MCI and WorldCom was consolidated into the MCI NRM system. To prepare utilization data for the *March 310 Report*, WorldCom extracted data from the TNIS and NRM systems and then manually input that data into the Excel spreadsheets that were submitted to the CPUC.

Audit Methodology

Staff used two approaches to test the accuracy of the utilization data submitted in the *March 310 Report*. First, staff selected random samples from the Worldcom database to test the reliability of the system and to verify the number of assigned TNs reported. Because Worldcom's two systems were merged into the MCI system in June 2000, the TN tracking was done all in the formerly MCI's NRM system at the time of the audit. Secondly, staff compared the *March 310 Report* utilization data to the FCC NRUF Report¹⁹ to investigate Administrative and Reserved numbers. The FCC NRUF Report was pulled from the NRM system seven months after data was submitted to the CPUC in November 1999, and after the TNIS and NRM systems had been merged. The inventory management systems are administered from offices in Vienna, Virginia, so the comparison tests were done on site.

¹⁹ Number Resource Utilization/Forecast Report data was reported as of June 30, 2000.

XO CALIFORNIA

Data Source and Number Inventory Systems

Staff determined that the XO California Inc. (XO - formerly Nextlink California Inc.) 310 utilization data was assembled manually using information pulled from three sources. The data was retrieved from (a) its Saville Telephone Number Inventory system (Saville TNI), (b) the telephone billing history tables, also contained in Saville (Saville Billing History), and (c) a line detail report that was generated from its ---- switches that serve the 310 NPA. XO did not maintain a back up copy of data used to compile the *March 310 Report*.

Staff verified that XO has implemented a new automated reporting system that will maintain a back up of information in accordance with FCC guidelines in the future. This system is designed to pull data from both the Saville systems and the end office switch to compile future utilization data reports.

Audit Methodology

Staff selected random samples of utilization data that XO submitted for the *March 310 Report* and traced those numbers to XO's Saville system. Since XO did not maintain any backup work papers for the audit, staff performed a reliability test by investigating actual TNs in XO's current system. Staff also compared data that XO submitted for the FCC NRUF Report to the utilization data submitted for the *March 310 Report*.

SPRINT

Data Source and Number Inventory Systems

Sprint Spectrum PCS dba Sprint PCS (Sprint) is a wireless telephone company. Staff learned that Sprint updated its TN inventory management system each night and

made changes during the day. Further, staff found that Sprint's systems did not maintain the data used to compile utilization data for the *March 310 Report*.

Staff reviewed two automated reports Sprint used from its TN inventory management system. Those reports were combined manually and were manually input into the spreadsheet for the *March 310 Report*. Sprint has one system that controls its TNs. The TNs must be active in the billing system or the customer will not receive dial tone. Sprint's billing system keeps historical data on current customers, including the date the service became effective.

Audit Methodology

Staff selected a TN sample of thousand number blocks and downloaded the data into an Excel spreadsheet. Staff compared the data in the spreadsheet to the record shown in *March 310 Report* and traced those TNs to Sprint's billing system.

AT & T WIRELESS

Data Source and Number Inventory Systems

Staff noted that AWS is the successor to AB Cellular Holding LLC (AB). During the data submission for the *March 310 Report*, AB used its own billing system called MacroCell. AB prepared the utilization data using a data dump from its MacroCell billing system. The utilization data was manually compiled and in some cases required manual determination of TN status.

Staff found that AWS' billing system is also called MacroCell. AB's MacroCell system was merged into the AWS MacroCell system between March and April 2000. Staff was told that AWS has automated its reporting system and will submit future utilization data through its automated system.

Audit Methodology

Staff looked at AWS' MacroCell system that tracks the status of a TN including historical data for three months. Staff also obtained a twelve-month history for TNs that were currently in use.

Staff compared the available TNs in the AWS system with the TNs reported as available for the *March 310 Report*. Staff selected a random sample of numbers as assigned, administrative, aging, or reserved in sample blocks for the comparison and looked at the activities on TNs during the last 12 months.

Staff spent less audit resources to verify Administrative and Reserved TNs for reasons discussed in the Audit Findings section. Staff did not focus on Aging TNs as AWS internal data would have changed status in the period between data submission and data audit.

TYPE 1 NUMBERS

Audit Methodology

For the purpose of this audit staff chose to verify Type 1 numbers held by two LECs, Pac Bell and Verizon. Staff identified Type 1 wireless carriers by their NXX-prefix range based on non-reported data in the *March 310 Report*. Staff followed up with delinquent Type 1 carriers, requiring them to return any available numbers that are in excess of Type 1 carriers' inventory. Staff contacted delinquent Type 1 carriers via letters, e-mails, and telephone calls requiring them to resolve discrepancies and report complete information on their utilization data to CPUC.

A-2 Audit findings of Verizon's Uncontaminated Thousand Blocks

Uncontaminated Ranges	Quantity.	Available Numbers
Ranges		Classified as Administrative
TOTAL		

A-3 Verizon: Inventory Status of Telephone Numbers by Number Of Years

	Less Than	No of Years & Telephone Numbers In Status				Total
Inventory Status of Numbers	1 Year	1-3 Yrs.	3-4 Yrs.	4-5 Yrs.	> 5 Yrs.	
Reserved- General Purpose						
Reserved To Order						
Suspended						
Temporary						
Soft Dial Tone						
Total Telephone Numbers						

The above inventory excludes Business Customers, as the staff could not determine the period of time they have been reserved.

A-4 Distribution of all Type 1 Numbers in the 310 Area Code

TYPE 1 NUMBER SUMMARY			
Service Providers	Total Type 1 Assignment	Reported Numbers	Non-Reported Numbers
Pacific Bell			
Verizon			
PacWest			

A-5 Pacific Bell Type 1 TN Summary (By Rate Center) Reported for the March 310 Report

RATE CENTER	ASSIGNMENTS	REPORTED	RATE
CMTN GRDN			
CULVER CITY			
EL SEGUNDO			
HAWTHORNE			
INGLEWOOD			
LOMITA			
SAN PEDRO			
TORRANCE			
TOTAL			

A-6 Verizon Type 1 TN Summary (By Rate Center) Reported for the March 310 Report

RATE CENTER	ASSIGNMENTS	REPORTED	RATE
LAKWOOD			
REDONDO			
SANTA MONICA			
MAR VISTA			
SANTA MONICA			
WEST ANGELES			
TOTAL			

A-7 List of Delinquent Type 1 Carriers

The following lists Pacific Bell, Verizon, and Pac West's T1 wireless carriers (39) that have provided incomplete or no utilization data as of to date (this list is as of December 2000, an update from the November 1999 status).

- | | |
|-------------------------------------|-----------------------|
| 1. Access Paging | 21. Network Services |
| 2. Advanced Paging | 22. Pacwest |
| 3. Advantage Cellular | 23. Page First Comm |
| 4. Airtouch Cellular | 24. Page Prompt |
| 5. Airtouch Paging | 25. Page U Paging |
| 6. Action Paging | 26. Pagemart |
| 7. Beepers and More | 27. Pagenet |
| 8. Cellular Services | 28. Paging Dimensions |
| 9. CTS | 29. Paging Services |
| 10. Conxus | 30. Paging Systems |
| 11. Digitcom | 31. Pronet |
| 12. GTE Paging (now Verizon Paging) | 32. Radio Call |
| 13. Hyde Park Beepers | 33. Satellite Paging |
| 14. Hye Page | 34. Southwest Paging |
| 15. ICS | 35. Touch-tel Paging |
| 16. JPS/Onemain | 36. TSR Wireless |
| 17. LA Cellular | 37. US Communications |
| 18. Metrocall | 38. US Wireless |
| 19. Metromedia | 39. Westlink |
| 20. Mobilecom | |