MEMORANDUM

TO: Utah Public Service Commission

FROM: Division of Public Utilities
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DATE: March 7, 2000

RE: DPU Audit Results for 801 Area Code Relief

Summary:

The Division of Public Utilities (hereinafter the "Division") has completed its initial audit of phone numbers within the 801 Area Code that have been assigned to the various members of the Telecommunications Industry (hereinafter the "Industry"), the results of which are herewith attached as Attachment A. The Division has also estimated the utilization of phone numbers issued subsequently, through approximately the first part of February, 2000, for both landline and wireless phone numbers.

Based on the Division's audit, the Division believes that there is a possible 4.43 years (see Line 22, Page 1 of Attachments A) remaining in the life of Area Code 801. This estimation assumes that number conservation measures are approved by the FCC, appropriate and timely action is taken by the Commission, and the full cooperation from the industry is obtained. It should be noted that this estimation of 4.43 years will deteriorate as each month passes (see discussion at end of memo). The Division again reiterates that number conservation measures are considered by the FCC to be a separate and distinct issue from that of relief planning. The FCC insists that, prior to implementation of any number conservation measures, a state must have a back-up plan on the shelf ready for instant relief in the event number conservation measures prove inadequate.

FCC Update:

According to Aaron Goldberger, FCC Attorney, the FCC is not considering Utah's petition (nor any other State's petition) at this time because they are instead working on a national order for number resource optimization. Mr. Goldberger expects that a "Report and Order" will be released toward the end of March. He did say that they are about to finish up the compiling of comments on our petition and the results of those will be issued shortly (probably within the next 10 days).

Audit Results:

The audit data was obtained pursuant to a Commission data request dated October 5, 1999 to all code holders[1] of area code 801 phone numbers. All pertinent data is indicative of the responses received from the Industry. According to the Utah Local Exchange Routing Guide (LERG) data received from the North American Numbering Plan Administration (NANPA), a total of 6,500,000 phone numbers have been issued to the Industry as of the first part of February, 2000. The Division's study includes 4,580,000 landline numbers and 1,440,000 wireless numbers, for a total of 6,020,000 numbers, or 92.6% of the total numbers currently issued to the Industry (see Line 1, Page 2 of the Attachment A).

The summation of all data responses indicate that the total utilization of the landline numbers is indicated at 66.26%, and the total utilization of wireless is a lesser percentage at 51.72% (see Line 10, Page 2 of Attachment A). However, upon further review of these responses, the Division believes that these utilization percentages are overstated, especially by those companies indicating high volumes of phone numbers in "Reserved" and "Assigned, but Not Working" categories. (See Attachment B for a description of each utilization category.) The Division estimates that actual usage is probably no more than 60% for landline numbers and 50% for wireless numbers (see line 11, Page 2 of Attachment A). There are also significant volumes of numbers included in the "Assigned to Customer" category that do not appear to be accurately reported; however, the Division has no conclusion on whether some of those numbers can be recovered and thus have not included this category in the Division's recovery estimate.

As shown on Lines 9 & 10, Page 1 of Attachment A, the current life of phone numbers in the 801 area code is 1.08 years, or 13 months. This calculation assumes the

[1] A Code Holder is the company that has requested and received (assigned) at least one block of 10,000 phone numbers, or Central Office Code. All users of phone numbers are not always the Code Holder; for example, an ILEC or CLEC may be a code holder of a 10,000 block, but may allow another company or customer to use all or part of that Central Office Code. The initial Code Holder, and not the customer or secondary user of the numbers, remains code holder of record as far as NANPA and the LERG data base are concerned.

current maximum rate of number distribution of 110,000 numbers, or 11 NXX[2] blocks, per month. However, the Division believes that the actual life of the remaining phone numbers is approximately 2.15 years, or 26 months (see Lines 13 & 14, Page 1 of Attachment A). This estimate assumes that the Commission is federally approved to implement number conservation measures including pooling. With Pooling, these currently available phone numbers would be distributed by the 1,000 block, instead of the 10,000 block, each 1,000 block being $1/10^{th}$ of the 10,000/NXX block. This also assumes that the rate of distribution will be, at most, half of the current maximum allowable monthly distribution of 11 NXX's. This assumption is based on the fact that only 1 to 5 NXX blocks have been requested per month in the last few months. In addition, it appears that most companies do not need a whole 10,000 block all at once for any Utah rate center. As soon as the FCC grants Utah its number conservation waiver and Utah can implement thousand block number pooling in the 801 area code, the requests for numbers will be made at smaller increments of 1,000. The Division believes that companies' requests for phone numbers, assuming proper reporting by companies, will then be much less than the current rate of consumption.

Based on recovery measures as discussed here, the Division estimates that there are approximately 1,506,000 phone numbers that could possibly be recovered from the Industry under thousand block number pooling. This would add an additional 2.28 years to the life of the 801 area code. (See Lines 15 & 18, Page 1 of Attachment A. These recoverable phone numbers are outlined on Page 2 of Attachment A and include "contaminated" blocks as discussed in the following paragraph.) As mentioned above, the Division believes there are recoverable phone numbers included in the "Reserved" and "Assigned, but Not Working" categories, as reported by the Industry. The Division has included these phone numbers as being subject to recovery in its recovery estimate.

Recovering and reissuing of stockpiled numbers will provide some relief for the 801 area code exhaust. However, the Commission should recognize the fact that within each 10,000/NXX block, if any single telephone number of a 1,000 block is currently in use, that particular 1,000 block is considered "contaminated". According to industry guidelines[3], a block that is used at a rate of 10% or less may be recovered and reissued within the current rate center assigned that NXX block.

The current version of the Number Portability thousand block number pooling software[4] is limited to entry of each and every telephone number and does not allow for the efficient data representation of thousand block data. The proposed upgrade to Version 3.0 of the Number Portability software will allow for thousand blocks to be represented as single data entries, rather than one thousand entries in the data base. The current schedule for release of the software upgrade 3.0 for testing is July 1, 2000.

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[2] Phone numbers are currently distributed in blocks of 10,000 consecutive numbers which is referred to as a Central Office Code or NXX code. For example, all phone numbers included in the block 801-321-XXXX equals 10,000 phone numbers. The "321" is the NXX "code" for that block.

[3] See Section 8.2.5, Industry Numbering Committee, Thousand Block (NXX-X) Pooling Administration Guidelines, INC 99-0127-023, dated January 10, 2000.

[4] Version 2.0 of the Number Portability software (that contains polling capability of Version 1.4) is currently available.

Several months of testing are expected following that date. Therefore, a realistic date for implementation of the version 3.0 software is fourth quarter, 2000. Number Pooling could be implemented with either version of the software; however, the version 3.0 provides more efficient method of data utilization and likely provides a less costly approach to implement.

By adhering to industry standards for number pooling and portability, the Commission should be able to recover 1,000 blocks with up to 10% contamination within an NXX and reissue that block to any company needing number resources within the same rate center. This method is currently not available for wireless companies due to shortfalls in technology[5]. However, the Commission may want to consider a measure to request that blocks of 10,000 assigned to wireless carriers in the 801 area code, in which 100 or less numbers are used, and where that company has another NXX block within the same rate center, be kept out of their assignment system until all other number resources have been exhausted internally. Also, any complete CO codes (uncontaminated NXX blocks) that have no numbers assigned and are not part of that wireless carriers forecasted demand (as determined in the industry guidelines) should be returned to NANPA. If these spare thousand blocks could eventually be utilized by other carriers needing numbers, the Division estimates that this method would recover, or extend the life of, approximately 240,000 numbers from wireless carriers that may otherwise not be recoverable until later. The Division supports this requirement and has included this recovery method in its recovery estimate.

As one last note of concern, it should be noted that as each month goes by, the phone numbers available for recovery diminishes. This is due in part to the actual consumption of phone numbers by customers but is also caused by the non-sequential issuance of phone numbers to customers of Utah's telecommunications companies. The study data indicates that there is a high level of non-consecutive number issuance. This means that phone numbers are issued to customers from various 1,000 blocks within an NXX instead of using up the first set of 1,000 phone numbers and then issuing from the next consecutive block of 1,000 phone numbers. Utah rates high in this method based on an informal comparison to other states' utility studies. This issue partially explains why the estimated rate of recovery is much lower than the number of unused phone numbers in the industry data (24.19% recovery as compared to an estimated 34% to 40% unused phone numbers, see Line 17, Page 2 of Attachment A). The Division recommends that the Commission include a provision to prohibit this method of issuing phone numbers and require consecutive phone number distribution. The Division understands that there are "hot" phone numbers out there, but stresses the point that once number portability is operational, any "hot" number will be up for bid.

cc: SEE ATTACHED SERVICE LIST

[5] Wireless providers are currently granted a waiver by the FCC of the requirement to implement Number Portability until fourth quarter 2000. Number Portability is a prerequisite for number pooling by any carrier in any rate center.