

ORIGINAL

65974

Decision No. _____

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

EDWARD L. BLINCOE, individually and
as President of the UTILITY USER'S
LEAGUE OF CALIFORNIA,

Complainants,

vs.

THE PACIFIC TELEPHONE AND TELEGRAPH
COMPANY, a corporation, THE GENERAL
TELEPHONE COMPANY, a corporation,
and the CALIFORNIA WATER & TELEPHONE
COMPANY, a corporation,

Defendants.

Case No. 7445
(Filed September 21, 1962)

JAMES J. OPPEN and RICHARD D.
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Attorney at Law, V. LANE KNIGHT,
Attorney at Law, and ROBERT H.
FENDLER, Attorney at Law, DOES I
through MCMLXII,

Complainants,

vs.

THE PACIFIC TELEPHONE & TELEGRAPH
COMPANY, a California Public Utility
Corporation,

Defendant.

Case No. 7449
(Filed September 24, 1962)

ANTI-DIGIT DIALING LEAGUE, a
corporation,

Complainant,

v.

PACIFIC TELEPHONE & TELEGRAPH
COMPANY, a corporation,

Defendant.

Case No. 7504
(Filed December 4, 1962)

(Appearances are set forth in Appendix A)

O P I N I O N

Nature of Proceedings

The three above-entitled complaints ^{1/} raise issues concerning the necessity for and reasonableness of all-number calling (ANC).

The Blincoe complaint requests an order of the Commission restraining defendants ^{2/} from extending ANC in the Los Angeles area and requiring defendants to provide affirmative notice to a telephone user whenever a charge is to be applied to a telephone call. The Oppen complaint requests an order of the Commission permanently restraining The Pacific Telephone and Telegraph Company from eliminating and discontinuing the name-prefix system and compelling it to restore all name-prefix telephone service which has been converted to ANC. In the alternative, the Oppen complaint requests that if ANC is put into effect all calls made within dialing area 213 (Los Angeles and environs) be made local calls to each other, thus eliminating the present multi-message unit and toll system that is employed in area 213 by Pacific Telephone. The Anti-Digit Dialing League complaint specifically requests "an order compelling The Pacific Telephone and Telegraph Company to cease and desist from its incipient scheme to impose all-number calling upon the public, to

1/ Sometimes referred to herein, respectively, as the "Blincoe complaint", the "Oppen complaint" and the "Anti-Digit Dialing League complaint" or "ADDL complaint".

2/ The defendants are the three largest telephone utilities in California and at the end of 1962 operated 76% of the exchanges and served 98% of the telephones in the State, segregated as follows:

	<u>Number of Exchanges 12/31/62</u>	<u>Company Stations 12/31/62</u>
The Pacific Telephone and Telegraph Company	399	7,117,647
General Telephone Company of California	34	1,290,568
California Water & Telephone Company	20	208,649
44 Other Telephone Utilities	<u>140</u>	<u>177,611</u>
State Totals	593	8,794,475

rectify the harm already done, and to look for changes, if any ever be needed, more in keeping with the desires and best interests of the public."

Hearing

The Blincoe and Oppen complaints were consolidated for twelve days of hearing in Los Angeles during the period December 1962 - August 1963 before Commissioner Grover and/or Examiner Dunlop. Forty-five witnesses were presented, 37 exhibits were received and the transcript contains 2,343 pages. Upon the filing of briefs, the Blincoe and Oppen complaints were taken under submission on October 2, 1963.

Five days of public hearing were held on the ADDL complaint in San Francisco during May and July 1963 before Commissioner Grover and/or Examiner Dunlop. Eighteen witnesses were presented, 37 exhibits were received and the transcript contains 904 pages. Following the filing of briefs, the ADDL complaint was taken under submission on August 26, 1963. These three complaint matters are now ready for decision.

Temporary Restraining Order

Because it appeared that a final determination of the issues presented by these three complaint proceedings would take some time beyond the announced starting date for conversion of San Francisco telephone numbers and in view of the fact that Pacific Telephone itself had stated that the capacity of the present name-prefix central office codes was sufficient to meet estimated requirements until about 1970, a temporary restraining order against Pacific Telephone was issued on September 30, 1963.

Position of Complainants

The various claims, assertions and positions urged by complainants in their complaints, during the hearings and in their briefs may be summarized as follows:

1. All-number calling results in a significant inconvenience to the public. ANC creates an unreasonable and unfair burden and loss of time for telephone users.

2. There is widespread public rejection of the change to ANC and an overwhelming public preference for the name-prefix system.

3. ANC makes the public do the work of machines and calculators, makes the public suffer a loss of personal identity, and is one more instance of the snatching away of the human element in our lives.

4. ANC has given no consideration to human engineering respecting the relative ease of learning and remembering a combination of letters and numbers as compared with all-numbers.

5. ANC results in more dialing errors.

6. ANC creates a substantial economic loss to ratepayers through loss of time, loss of business and cost of errors in toll dialing; it impairs communication and commerce between businessmen and merchants and their clients and customers.

7. The conversion to ANC is merely a conspiracy to increase revenues of the telephone companies.

8. People cannot recognize place names by number codes.

9. The loss of geographic identification under ANC leads to wrong usage and additional telephone charges, particularly with respect to foreign exchange lines.

10. Any requirement for additional central office codes can be met in ways other than by ANC. The present system of lettered prefixes provides more than enough telephone combinations. ANC does not solve the problem of growth any better than letters and numbers, and the retention of names and numbers (or at least letters and numbers) causes the least disturbance to subscriber habits.

11. No showing has been made that ANC provides a benefit to the local subscriber.

12. The introduction of ANC is not accompanied by any suggestion of a rate reduction, which should follow from subscribers doing the work that ought to be done by machines.

13. Rule 17(D)^{3/} of Pacific Telephone's tariffs does not contemplate the company-wide change of all telephone numbers which is being attempted by the change to ANC. The change to ANC is permissible only on a formal order of the Commission after full notice and public hearings.

14. Requiring an extra pull of the dial whenever a charge call is to be made would satisfy the requirement of affirmative notice and eliminate a major source of ratepayer grievance.

15. Conversion to ANC is not reasonable but is instead arbitrary and unreasonable.

3/ Rule 17(D) of Pacific Telephone's tariffs provides:

"(D) Changes in Telephone Numbers

The assignment of a number to a subscriber's telephone service will be made at the discretion of the company. The subscriber has no proprietary right in the number, and the company may make such reasonable changes in telephone number or central office designation as the requirements of the service may demand."

The other defendants have similar rules.

Position of Defendants

The various claims, assertions and positions urged by defendants in their answers to the complaints, during the hearings and in their briefs may be summarized as follows:

1. The complainants have failed to plead or prove any violation of law or order or rule of this Commission and the complaints should be dismissed. The tariff provisions of defendant telephone utilities permit the changes in the form of telephone numbers to ANC without requiring prior Commission authorization.

2. The present telephone numbering system is approaching its operational capacity in all of the large population centers of the nation and by about 1970 the presently available supply of usable name-prefix central office codes (540 in each numbering plan area) will have been exhausted in 16 numbering plan areas (2 of which are in California) containing about 31 percent of the nation's telephones. By 1975, similar exhaustion will have occurred in 16 other numbering plan areas of the nation.

3. If serious disruption of the service and great expense are to be avoided, the operational capacity of the network now must be increased under a plan which will provide uniformity for nationwide use, impose a minimum change on customers, require dialing a minimum number of digits, provide the easiest and most convenient method for customers to use and meet the estimated numbering plan requirements for present and future telephone users.

4. After relatively minor equipment changes, ANC provides for 800 usable central office codes in each numbering plan area, compared with 540 usable central office codes under the name-prefix system.

5. Conversion to ANC is by far the most practical, least costly, least burdensome and least disruptive of all possible solutions to the anticipated need for additional central office codes.

All the suggested alternatives to ANC are impractical and undesirable, either from the standpoint of vastly increased cost or well-known difficulties of customer usage or both. ANC meets the problem of the anticipated central office code scarcity without changing the actual dialing of any telephone number, without necessitating more pulls of the dial, without requiring expensive modifications in all of the central offices in the country and without having to change all telephone dials in the country and a great many telephone numbers simultaneously. The change to ANC is an operational necessity.

6. Speed of dialing is faster under ANC than with the name-prefix system. The claim of loss of time and inconvenience in looking up telephone numbers under ANC is unfounded.

7. The various claims of burden, cost and inconvenience resulting from ANC are without substance. The claim of no economic benefit under ANC is erroneous and unsupported. ANC will enable Pacific Telephone and other telephone companies to provide more and better telephone service to subscribers at rates which are just and reasonable than would otherwise be the case.

8. Dialing errors have decreased, not increased, under ANC.

9. After the conversion to ANC, just as before, any charges for misdialed calls can be and are readily canceled.

10. The requirement of remembering telephone numbers is no part of the conditions of telephone service and the memory problem with ANC is insignificant.

11. All necessary information, including that regarding geographical identification of telephone numbers, and all tools for efficient telephone usage are provided by the telephone companies. The advent of ANC has no effect on information services and practices; the information services are the same whether the telephone numbers are in name-prefix or all-numeral form.

12. The request in the Blincoe complaint that telephone utilities be required to provide affirmative notice whenever a charge is to be applied on a telephone call was thoroughly considered in Case No. 6333 and resolved against Blincoe in that proceeding.

13. The conversion to ANC is already well-established with about 70 percent of the total stations of Pacific Telephone converted to ANC. Comparable figures for California Water & Telephone Company and General Telephone Company of California are 93 percent and 43 percent, respectively.

14. There is no overwhelming public rejection of the conversion to ANC; on the contrary, the conversion is proceeding smoothly and people are adapting to it speedily and easily. A mere poll as to whether people "like" ANC as compared with the name-prefix system is meaningless in that it does not put before the public the whole question of which system out of all the alternatives is the best, least expensive, and most practical solution to the anticipated shortage of central office codes.

15. The failure of Pacific and other telephone utilities to carry through their programs of ANC would affect not only intra-state but interstate service. In the future, ANC will be helpful in adjusting to world-wide dialing.

16. The charges of conspiracy in Case No. 7449 are unsupported.

Dial Telephones

Most dial telephones presently installed in California and in the rest of the continental United States and Canada have 10 numbered holes, 1 through 0 (zero), with letters associated only with holes numbered 2 through 9, arranged as follows:

<u>Hole Number</u>	<u>Letters</u>
1	
2	ABC
3	DEF
4	GHI
5	JKL
6	MNO
7	PRS
8	TUV
9	WXY
0	OPERATOR

While some dials have the letter Z associated with the zero hole, most present dials in California do not use either Q or Z. Not too many years ago there were a number of dial telephones in service in California and elsewhere in the continental United States which had only numerals associated with the dial holes. The State of Hawaii, and some foreign countries (for example, Germany) have used only numerals on dials for many years.

So far as the mechanical operation of the telephone equipment is concerned, it makes no difference whether each of the ten holes of the dial is designated by a number, a letter, a picture or some other symbol. The equipment recognizes only the number of impulses transmitted by the particular pull of the dial. Thus, whether a party dials the number 8 or any of the letters T, U or V, the equipment receives only the same 8 impulses.

Telephone Numbering Arrangements

In the early days of telephony there was but one central office in an exchange, customers' lines terminated on a manual switchboard and, although the line terminations were usually numbered starting with one and proceeding upward in sequence,

customers usually placed a call by customer name rather than by number because subscribers were few and the operators were able to correlate a customer's name with a particular line termination on the switchboard.

When the number of customers grew to the point where the operator could no longer remember the numbers associated with customer names, it became necessary for customers to place calls by number. At that time there were exchanges having one-digit numbers, others with two-digit numbers and the larger exchanges with three-digit numbers. As growth continued, four-digit numbers were adopted in the larger cities. So long as there was only one central office in an exchange there was no need to have central office names or other methods of distinguishing between central offices in the exchange. However, when a second central office was established in the same exchange, with both the first and second central office using the same range of numbers, it became necessary to indicate in some way which of the two central offices was being called. In manual operation, it became common practice to name each central office and to make the name a part of the telephone number. For example, a number in the first central office might have been identified as Main 2345 and a number in the second central office as Branch 2345.

In an exchange served by a single dial central office, it was common practice for a customer not to dial a central office designation but only the number desired, such as 2345. No letters were required on the dial for such numbers. When more than one dial central office was established in the same exchange, numbers like 5-2345 or 52-2345, where "5" and "52" designated the central office, were used in some localities. In other localities the first two

letters of the office name were used as the central office designation, and telephone numbers like MA-2345 were dialed for a Main or Market or MADison number. In this latter situation, letters as well as numbers were required on the dial.

A witness for Pacific Telephone ascribed the presence of letters on dials to the single reason that such letters permitted transition from manual to dial service without changing the basic station telephone number in many cases where cities were already using central office names.^{4/}

Letters were not placed on the face of the dial opposite the number "1" and the number "0" (zero). The number "1" on the first dial pull could not be distinguished from an accidental preliminary depression of the switch hook and, further, the number "1" on the first dial pull was often used to start service calls, such as information, repair service and the like. The number "0" (zero) on the first dial pull was used to call the operator for special assistance. Accordingly, under the two-letter four-numeral numbering system, with numbers like MA-2345, where "MA" was the central office code, theoretically there were 64 (8x8) two-letter central office code combinations possible. Only 60 of these codes were considered suitable by the telephone industry for telephone name-prefix use, the codes 55, 57, 95 and 97 being considered unsuitable.^{5/}

^{4/} Textbooks on telephony suggest other reasons as well. (See for example "Telephone Theory and Practice - Automatic Switching and Auxiliary Equipment", by Kempster B. Miller, McGraw Hill Book Company, Inc., 1933.)

^{5/} There are words that can be made from letters on the dial associated with the codes 55, 57, 95 and 97, for example:

<u>Code</u>	<u>Word</u>
55	KLondike
57	KRaken
95	Y-Level
97	WRightwood

When more than the 60 usable central office codes in use under the 2-letter 4-number plan were needed, various numbering arrangements were tried, all involving the addition of another digit to the telephone number and the use of a seven-digit local numbering plan. In some locations the first three letters of office names were tried as central office codes, which produced numbers like KEN-2345 to designate the 2345 station in the KENmore central office. In other locations the central office code was made up of the first two letters of the central office name plus an additional numeral, which resulted in numbers like GA 1-2345 to designate the 2345 station in the GARfield 1 central office. The two-letter five-numeral plan, designated 2L-5N, in which the central office code is made up of the first two letters of the central office name plus a numeral, was adopted in preference to the three-letter four-numeral plan because more usable central office codes could be obtained under the 2L-5N plan. Theoretically, the three-letter four-numeral plan produced 512 central office code combinations ($8 \times 8 \times 8$) compared with 640 central office code combinations under the 2L-5N plan ($8 \times 8 \times 10$) because the dial generally had letters opposite only holes 2 through 9.

The use of different numbering systems in different places did not cause serious difficulty when only local calls could be dialed and long distance calls were handled manually by operators. However, with the introduction of nationwide operator and customer long distance dialing, starting in 1947, a uniform numbering plan was established of sufficient capacity so that each customer had a distinctive telephone number that did not conflict with the number of any other customer. This was accomplished by the introduction of numbering plan areas and a ten-digit numbering system.

A seven-digit numbering plan using the first three digits for the central office code could provide, even theoretically, only 1,000 central office codes (10x10x10). In 1947, when operator dialing of long distance calls was introduced, there were 14,000 central offices already in use in the United States and Canada. This number has since grown to some 37,000.

Thus, in 1947, to implement the mechanization of long distance calling the central offices in the United States and Canada were grouped into numbering plan areas, or NPA's. Each NPA was assigned a three-numeral code which became part of the telephone number but generally was not dialed except when calls were placed to other numbering plan areas. This permitted the use of the same range of central office codes (consisting of the first two letters of a central office name plus five numerals) in each of the different numbering plan areas, as needed. Under this system, ten-character telephone numbers resulted, such as 415-GAL-2345, where 415 designates the NPA in which the service is located, GAL (GARfield 1) designates the central office within the 415 NPA from which the service is provided, and 2345 designates a particular telephone station served by the GARfield 1 central office in the 415 NPA.

All present NPA codes are distinctive in that they have "1" or "0" (zero) as the second of the three numerals. This indicates to the equipment that an NPA code is being dialed. No present central office code uses the numerals "1" or "0" (zero) as the second of the three-digit central office code. With ten numerals on a telephone dial, there are potentially 200 (10x2x10) NPA codes available. However, the numeral "0" (zero) is used for reaching the operator and the numeral "1" has been considered

unusable as the first numeral of an NPA code because of the need to protect against preliminary pulses resulting from unintentional operation of the switch hook before dialing. Thus, there are 160 (8x2x10) potential NPA codes of which 152 are reserved for NPA code use and 8 (those with the numeral "1" in both the second and third places) are reserved for information, repair and other special services.

Certain minimum requirements were established by the Bell System in 1947 as prerequisites for connection with the nationwide dialing network. These included requirements relating to numbering, switching, signaling, equipment, transmission and maintenance. Conversion of telephone numbers to the 2L-5N (two-letter five numeral) form was one of these requirements.^{6/} The area code was prefixed to the 2L-5N number. Thus, no telephone station was connected to the nationwide customer long distance dialing network unless it had a 2L-5N directory listing, a 2L-5N station number card, and a combination of letters and numbers on the dial number plate. The dial number plate of a telephone station that was then equipped with only numbers was replaced with a number plate having both letters and numbers prior to connection of the station with the nationwide customer dialing network.

While from a technical engineering standpoint it would be possible to design a system to complete local calls within a dial exchange having a single central office by merely dialing three or four digits representing the station line number, with the introduction of customer long distance dialing it was not considered by

^{6/} Complainants suggested that if, as claimed by defendants, the all-numeral telephone numbering plan is superior to the letter-numeral plan, the Bell System must have made an error in 1947 when it first introduced a nationwide numbering plan and selected the 2L-5N plan over an all-numeral plan.

the Bell System either practical or economical to design and build equipment to accept 3 or 4 pulls of the dial on local calls and 5, 6 or 7 on other calls. Rather, to make customer long distance dialing work, all calls within a single numbering plan area were converted to seven pulls of the dial regardless of the size of a particular exchange. Uniformity was considered a necessity for nationwide customer dialing.

Approximately 95 percent of all telephone calls both originate and terminate in the same numbering plan area and do not require the use of the NPA code.^{7/} The remaining five percent of the telephone calls originate in one numbering plan area and terminate in another and require the use of the NPA code.

Beginning in 1960 defendants started to change the way in which central office codes were stated from the two-letter one-numeral form, such as TH 2 (Thornwall 2), to the numeral equivalent, such as 842. Defendants claim that this change increases the number of combinations available for central office codes compared with using the first two letters of the central office prefix name and one numeral. With dials having numbers associated with all ten holes and letters associated only with holes 2 through 9, theoretically with a three-dial-pull central office code there are 1,000 (10x10x10) combinations using all numerals and 640 (8x8x10) using two-letter one-numeral central office codes. However, since the numbers "1" and "0" (zero) have been reserved on the first

^{7/} The 1962 annual report of Pacific Telephone shows that for the year 1962 telephones served by Pacific Telephone in California originated 11,201,048,000 calls of which 10,780,346,000, or 96.2%, were local calls and 420,702,000, or 3.8% were toll calls. Only about 69% of the total toll calls resulted in completed toll messages. Interstate toll calls represented less than one-half of one percent of total originating calls in California.

and second pulls of the dial as previously indicated only 640 combinations are available for assignment as central office codes using all numerals under present equipment arrangements and present area code assignments. Of the 640 theoretical combinations using letter-numeral central office codes, defendants claim that only 540 are suitable for use. The 540 suitable combinations are obtained by eliminating the combinations 55, 57, 95 and 97 from the first two pulls of the dial, which defendants assert cannot form any generally suitable names, and by eliminating the numeral "0" (zero) in the third dial pull because defendants maintain that customers confuse the letter "O" with the numeral "0" (zero) and tend to misdial the letter "O" for the numeral "0" (zero). Thus, 540 suitable letter-name central office combinations are obtained. ($8 \times 8 = 64 - 4 = 60 \times 9 = 540$). There are, however, some locations that use two selected letters not associated with a name for the first two digits of the prefix.

Under the name-prefix plan, the Bell System had reserved the combinations 55, 57, 95 and 97 for radiotelephone use^{8/} and in the 213 numbering plan area (Los Angeles and vicinity) Pacific Telephone had assigned 23 central office codes using "0" (zero) as the third pull of the dial. The 640 all-numeral combinations alleged by defendants to be available for central office codes under present equipment arrangements assume the use of "0" (zero) as the third pull of the dial even though the letter "O" and the numeral "0" (zero) remain on the dial as at present. Furthermore, the Bell System has indicated in its 1961 issue of "Notes on Nationwide Dialing" that when the present 152 available NPA codes

^{8/} "Notes on Nationwide Dialing - 1955" issued by American Telephone and Telegraph Company, Department of Operation and Engineering.

are used up (possibly by the mid-1970's) additional NPA code assignments will be made first from NNO codes, where N is any numeral from "2" through "9" and "0" is zero, and that the use of "0" (zero) as the third digit in central office codes should be avoided wherever possible for that reason. Certainly, without equipment modifications it would not be possible to use the same pulls of the dial for both NPA and central office codes. Accordingly, if codes of the form "NNO" were used for numbering plan area codes, 640 all-numeral central office code combinations would not be available without equipment rearrangements first having been made.

Defendants plan by the installation of "interchangeable area and office code equipment" progressively over a five-year period starting in 1965 to increase the number of usable all-numeral central office codes to a maximum of 800 in any numbering plan area. This equipment, according to defendants, will count the number of digits received. If only 7 digits are received, the equipment will recognize that the first three digits are a central office code and will route the call to a central office in the calling party's numbering plan area. The equipment is so designed that if the eighth digit is not received within four seconds after receiving the seventh digit, the call will be completed to the calling party's numbering plan area. Thus, the equipment when installed will eliminate the need to have the numbers "1" and "0" (zero) set aside in the second pull of the dial as at present to designate an NPA code. Following installation of the equipment, the identical three-digit combination at the start of dialing may be used either as a central office code in the calling party's numbering plan area or as an NPA code. This will permit the use of all 10 numbers

for both the second and third pulls of the dial for central office codes under the all-numeral plan, thus increasing the usable central office code combinations to 800 (8x10x10). The interchangeable area and office code equipment when installed also will make available 800 NPA codes instead of the present 152, whether the central office codes are stated in a letter-number form or an all-numeral form.

With the installation of interchangeable area and office code equipment, it is also possible to obtain 800 central office code combinations in any numbering plan area using letter-number prefixes but it would be necessary to use at least some random letter combinations rather than name prefixes and to add the letter "Q" to the "1" hole of the dial and the letter "Z" to the "0" (zero) hole of the dial on all telephones in the United States and Canada. An alternate to the addition of the letters Q and Z to the dial would be to rearrange the existing letters in some other consistent manner on all dial plates on all telephones in the United States and Canada so that letters are associated with all ten holes, "1" through "0" (zero). The addition of the letters Q and Z to the dial plate could be done progressively over a period of time by inward movement and routine visits to customer premises or in some other appropriate way. However, no new central office codes using the letters Q or Z could be obtained until all telephones in the United States and Canada had been thus equipped. Rearrangement of the existing letters on dial plates would present more formidable problems, including a cutover at the same time of all telephones in the United States and Canada, number changes, and/or central office rearrangements. Defendants estimate that the interchangeable

area and office code equipment will cost some \$5,000,000 (\$1,000,000 for each of five years) in California.

In more than half of the central offices in the nation a set of "directing digits" must be dialed on long distance calls to route the calls into the long distance switching equipment. The digits "112" have commonly been used for this purpose. Thus, a person served from a central office in NPA 213 (Los Angeles and vicinity) which requires directing digits "112" to call a number such as GA 1-2345 in NPA 415 (San Francisco area) is required to dial 112-415-GA1-2345, a total of 13 pulls of the dial to reach the desired number. There is a long-range Bell System plan to shorten these three-digit directing codes (such as "112") to a single digit "1" for station sent paid toll service and "0" (zero) for person and special toll service, thus reducing the number of dial pulls by two where access codes such as "112" heretofore have been used, but increasing the number of dial pulls by one where no access codes heretofore have been used. According to defendants the "1" and "0" (zero) access codes when introduced will alert both the calling customer and the dialing equipment that a long distance call is about to be placed and can also be used to call the digit counting feature of the interchangeable area and office code equipment (when installed) into play.

In regard to the use of "0" (zero) by itself for assistance calls, and the use of "0" (zero) as an access code preceding the dialing of a person or other special type call, a timing arrangement will be provided whereby the continuation of dialing after "0" (zero) will cause the digits to be recorded for routing the call but the lack of any digits within three to five seconds after the "0" (zero) will cause the call to be routed to the switchboard for operator handling.

Initially, a given set of three digits following the access code will be either an area code, or a central office code in the home numbering plan area, but not both. Ultimately, however, the same set of digits may be either an area code or a central office code.

The latest announced Bell System standard objective numbering plan contemplates the following ultimate dialing procedures for both common control and step-by-step central offices:

Local calls, 7 digits such as	421-2345
Station sent-paid toll calls within the same NPA, 8 digits such as	1-421-2345
Station sent-paid toll calls between different NPA's, 11 digits such as	1-916-421-2345
Person and special toll calls within the same NPA, 8 digits such as	0-421-2345
Person and special toll calls between different NPA's, 11 digits such as	0-916-421-2345
Assistance calls, 1 digit	0
Service code calls, 3 digits such as	211

Thus, ultimately the customer will dial the access code "1" on station sent-paid toll calls and the access code "0" (zero) on person and other special type toll calls. In each case the access code will be followed by either 7 or 10 digits, depending upon whether the called point is in the same or a different numbering plan area. Under today's operations a single access code "1" or "0" (zero) may not be practical in the case of certain types of dial equipment or where swinging line shorts in rural territory are a problem. In these cases 2 or 3 digits access codes may be needed.

Before this objective plan can be fully effective throughout the United States and Canada considerable central office additions and rearrangements will have to be made. It is not

announced at this time when the plan will in fact be fully effective. However, it appears that the latest announced objective plan would make it just as difficult for a San Francisco customer to dial a relatively close Sacramento, or Santa Rosa, California customer or for a Los Angeles customer to dial a relatively close Santa Ana or Ventura, California customer as it does for such customers to dial a remote customer in Maine or in Canada, a total of 11 digits in each case.

Initially, in 1947, there were 86 NPA codes assigned in the United States and Canada, three of which were in California. At that time the reservation of 152 NPA codes was considered by the Bell System to be adequate for the ultimate growth requirements in central offices reflecting a forward looking estimate for a long period of years. Today there are 123 NPA codes in use in the United States and Canada, eight of which are assigned in California, leaving a margin of 29 NPA codes. These are anticipated to be exhausted by the mid-1970's.

The number of central office codes currently in use in each of the eight NPA's assigned in California, segregated between those used for regular telephone service and those used for special services, follows:

Numbering Plan Area	Principal City	Central Office Codes in Use		Total
		Regular Telephone Services	Special Services	
209	Fresno	163	49	212
213	Los Angeles	407	24	431
408	San Jose	304	30	334
415	San Francisco	340	57	397
707	Santa Rosa	96	37	133
714	San Diego	298	52	350
805	Bakersfield	133	37	170
916	Sacramento	227	62	289
	Total	1,968	348	2,316

Of the 348 central office codes used for special services in California, 305 are used for dial teletypewriter exchange

service (TWX). A segregation of the 348 central office codes assigned to special services follows:

Numbering Plan Area	Time of Day	<u>Central Office Codes Assigned to Special Services</u>							Total
		Weather	Dial TWX	Mobile Radio	Centrex	Universal Toll Infor-mation	Machine Switching System Service	Inter-exchange Receiving Service	
209	1	0	47	0	0	1	0	0	49
213	1	1	20	0	1	1	0	0	24
408	1	1	22	0	2	1	2	1	30
415	1	1	42	1	5	1	5	1	57
707	1	0	35	0	0	1	0	0	37
714	1	0	49	0	1	1	0	0	52 ✓
805	1	0	35	0	0	1	0	0	37
916	1	0	35	0	5	1	0	0	62
Total	8	3	305	1	14	8	7	2	348

Clearly, the problem of telephone numbering arrangements is a complex one, involving not only telephone numbers but also the inadequacy of the present reserve of numbering plan area codes, the utilization to a greater extent of the theoretical maximum telephone numbers available within each numbering plan area, the interrelationship between telephone numbers, numbering plan area codes, central office codes, central office locations, population density and movement, telephone calling characteristics and many other elements which enter into the provision of a workable and efficient telephone service.

The Bell System has expressed its concern in the past about the conservation of central office and area codes. For example, the following statement appears in the 1955 issue of "Notes on Nationwide Dialing" issued by the Department of Operation

and Engineering of the American Telephone and Telegraph Company:

"Conservation of central office codes, which in turn saves area codes, is essential since about three-quarters of the available numbering plan area codes have been assigned. Should the area codes ever become exhausted it would be necessary to revise the entire numbering plan and make exceedingly expensive changes in the design of common control equipment."

Defendants anticipate that by about 1970 the number of central office codes in use in the 415 NPA (San Francisco area) and 213 NPA (Los Angeles and vicinity) as well as in 14 other NPA's in the United States will each reach 540, the number defendants consider to be the maximum usable central office code combinations under name prefixes in each numbering plan area.^{9/} With the use of arbitrary letters for some central office combinations and "0" (zero) on the third dial pull, 640 central office combinations would be possible in each NPA without modifying the dial or central office equipment.

Theoretically, there are 10,000 telephone numbers that can be associated with each central office code. However, in California on the average there are only about 2,300 telephone numbers in use in each central office^{10/} and more than 25 percent of the central offices have less than 1,000 telephone numbers in use. As a result, there are many available telephone numbers within existing central offices that are not used and that are available for growth. However, such growth would have to take place in the

9/ The 14 other numbering plan areas involved are:

<u>NPA Code</u>	<u>Principal City</u>	<u>NPA Code</u>	<u>Principal City</u>
201	Newark, New Jersey	405	Oklahoma City, Okla.
202	Washington, D.C.	419	Toledo, Ohio
212	New York	513	Cincinnati, Ohio
215	Philadelphia	703	Richmond, Virginia
301	Baltimore	713	Houston, Texas
305	Jacksonville, Florida	913	Topeka, Kansas
312	Chicago, Illinois	919	Raleigh, N. Carolina

10/ For the United States, the average is about 1,500.

areas where the availability exists, unless some practical and economical method were found to use the spare numbers of one central office in some other location.

Alternative Numbering Arrangements

Defendants asserted that prior to the adoption of all-number calling, consideration was given to many different ideas and alternatives. The principal alternatives are:

1. Change the dial so that there would be letters opposite the "1" and "0" (zero) holes of the dial.

Defendants considered the possibility of leaving the letters opposite the holes "2" through "9" as they now are and inserting the letter Q opposite the "1" hole and the letter Z opposite the "0" (zero) hole. However, defendants rejected this alternative because it would require adding the letters Q and Z to the dials of practically every telephone in the United States and Canada, the letter Q would be out of alphabetical order, and this alternative would require the use of at least some arbitrary letter combinations resulting in a mixed-nonuniform numbering arrangement considered by defendants to be undesirable for fast and efficient service. Further, defendants maintained that this alternative would result in confusion from sound-alike letters such as B, P and V, or M and N, and would perpetuate the confusion between the letter "O" and numeral zero and between the letter "I" and the numeral "1".

Defendants also considered the possibility of rearranging existing letters on the dial in such a way that the letters AB would be opposite the "1" hole, the

letters CD would be opposite the "2" hole, etc. This possibility was rejected by defendants because they decided that such an alternative would require changing all telephone dials, practically all telephone numbers and all telephone directories throughout the United States and Canada at the same time and at substantial cost.

2. Discard names in favor of letters and use zero in the third pull of central office codes.

This system would produce 640 central office codes in a numbering plan area without adding any letters to the dial and 800 codes if the letter Q were added to the "1" hole of the dial, the letter Z were added to the "0" (zero) hole of the dial, and interchangeable area and office code equipment were installed.

Defendants rejected this alternative because they maintained that it would not only discard present central office names but also result in confusion from sound-alike letters such as B, P and V, or M and N, and from the letter "O" and the numeral zero. Furthermore, this solution would require adding the letters Q and Z to the dials of practically every telephone in the United States and Canada and the letter Q would be out of alphabetical order.

3. Add one more digit to the central office code.

This alternative would result in 8-digit local numbering with numbers like 3GA1-2345, where 3GA1 is the 4-digit central office code and 2345 is the line number. There would be available under this alternative at least 4,320 (540x8)

usable central office name-number prefixes in any numbering plan area which used 8-digit local numbering out of a theoretical maximum of 10,000 with four-digit central office codes. Defendants rejected this alternative because, according to them, it would require that customers dial an extra digit on all calls, including local calls and thereby slow the service; dialing errors and customer irritation would increase with 8-digit local dialing; and central office equipment throughout the United States and Canada would have to be modified at considerable cost to react to an additional dial pull for local calls which comprise some 95 percent of all calls.

4. Split the present numbering plan areas.

Since the original assignment in 1947 of 36 numbering plan areas in the United States and Canada, a number of the original NPA's have been subdivided into other NPA's until today there are 123 NPA codes assigned. Originally, California was subdivided into three NPA's, whereas today it has eight. Defendants acknowledge that even under all-number calling further splitting of numbering plan areas may be necessary in the future in some cases since there can be no duplication of telephone numbers within a numbering plan area. It cannot be denied that splitting present numbering plan areas will enable defendants and other telephone utilities to repeat each central office code in each new numbering plan area. However, under the Bell System's present uniform nationwide numbering plan, every time a numbering plan area is split, some calls that formerly could be completed by dialing 7 digits require 10 digits to be dialed after the split.

To obtain more area codes than the 152 presently reserved, it would be necessary either to reserve for NPA use certain presently available central office codes such as those of the form "NNO" (where "N" is any number 2 through 9 and "O" is zero), and not use such codes for central office codes, or to install equipment such as interchangeable area and office code equipment to make possible the use of the same codes for both area codes and central office codes.

Defendants rejected the suggestion that area codes be split as a solution to anticipated shortages of central office codes in the San Francisco (415) or Los Angeles (213) areas, claiming that this alternative would force customers in these areas to dial 10 digits on a great number of local calls they now make by dialing only 7 digits and that it would slow the service, increase confusion, increase wrong numbers, increase dialing errors and increase customer irritation. The record suggests the possibility that even with all-number calling, area codes 213 and 415 eventually will be split or eight-digit local dialing will be required. ANC, according to defendants, will at least extend the time during which local calls in these areas can be completed by 7 digits rather than by 8 or 10 digits.

5. Convert to all-number calling only in numbering plan areas where central office code shortages are anticipated to develop, such as in Los Angeles (213) and San Francisco (415).

While defendant, Pacific Telephone, predicted that shortages of central office codes in California would develop first in area codes 213 and 415, it proceeded on a plan to convert all telephone numbers throughout the State

to the all-numeral form, and it actually has completed its conversion in all areas except in area codes 213 and 415. Defendants stated that since people travel around and use telephones in many different numbering plan areas, a mixed numbering arrangement would create many problems, including the possible charge by some customers that they were being discriminated against because they had a different kind of number. Defendants maintain that different numbering plans in different areas tend to confuse customers and that a uniform numbering plan avoids mental conversion problems and reaction time of mixed numbering plans, promotes more accurate communications and understanding of telephone numbers between customers and operators, and thereby saves time.

6. Use name-prefix central office codes up to their maximum potential and then use all-numeral telephone central office codes only as additional numbers are needed.

If defendants had not changed any name-prefix central office codes up to the present time but rather had proceeded to use up such name-prefix codes to their maximum usable potential before assigning any all-numeral central office codes, defendants would not yet have run out of name-prefix central office codes in any numbering plan area in California; customers who had become accustomed to name-prefix central office codes would not have been called upon to become accustomed to central office codes in their all-numeral form at least until some future date; and the mixed numbering plan which resulted from the initiation by defendants of all-number calling in California in 1960

would not have been necessary until sometime about 1970 and then only in certain numbering plan areas.

Defendants rejected this alternative, urging that the permanent mixed numbering system that would result would lead to customer confusion, higher rates of dialing error, slower and less efficient service and claims of discrimination by customers, some of whom would rather retain familiar central office name prefixes while others would prefer the numbers. Furthermore, defendants maintain that the change to an all-numeral system is inevitable and that, considering the rate at which new telephones are being added, the sooner the job is completed, the fewer the customers who would be affected by the conversion and the less the cost.

Status of Conversion to ANC

Defendant, Pacific Telephone, started in the spring of 1960 to convert central office name-prefix codes in California to their all-numeral equivalents. By January 1, 1963 Pacific Telephone had completed 48 percent of the conversion in California, a figure which has since grown to approximately 70 percent. Comparable figures for California Water & Telephone Company and for General Telephone Company of California are 93 percent and 43 percent, respectively, as of June 30, 1963. The status of the conversion as of January 1, 1963 in various Bell System and adjacent independent telephone companies is shown on this record to be as follows:

Percentage of Completion of Conversion to ANC
As of January 1, 1963

	<u>Bell</u>	<u>Adjacent Independent Companies</u>
New England Telephone Co.	37%	76%
New York Telephone Co.	4	15
New Jersey Bell Tel. Co.	28	44
Bell Telephone of Pennsylvania	40	41
Chesapeake & Potomac Tel. Co.	40	62
The Southern Bell Tel. & Tel. Co.	51	53
The Ohio Bell Tel. Co.	29	53
Michigan Bell Tel. Co.	29	36
Indiana Bell Tel. Co.	11	28
Wisconsin Tel. Co.	10	28
Illinois Bell Tel. Co.	35	43
Northwestern Bell Tel. Co.	40	40
Southwestern Bell Tel. Co.	1	37
The Mountain States Tel. & Tel. Co.	58	80
Pacific Northwest Bell Tel. Co.	18	30
The Pacific Tel. & Tel. Co.	48	33
Bell Telephone Co. of Nevada	49	29
The Southern New England Tel. Co.	46	100
The Cincinnati & Suburban Bell Tel. Co.	100	50
The Bell Tel. Co. of Canada	47	36

Various companies have continued conversion to ANC since January 1, 1963. Pacific Telephone was temporarily restrained subsequent to September 30, 1963. California Interstate Telephone Company in its annual report to stockholders for the year 1962 stated: "The proposal of the telephone industry nationwide to assign all numbers to customers instead of a combination of letters and numbers has met with opposition. We have not changed to all-number calling as it is not necessary to our system."

Asserted Advantages of All-Number Calling
Over Other Plans

Defendants indicated the following advantages for ANC over other plans:

1. ANC does not change anyone's telephone number insofar as the dialing is concerned; for example, GARfield 1-2345 and 421-2345 are equivalent and whether GA 1-2345 or 421-2345 is dialed, the same number is

reached. Thus, each person can take his own time in getting used to the new system and anyone who chooses to continue to dial letters and numbers can do so and the calls will go through.

2. ANC does not add 1 or more digits for the 95 percent or more of the calls that are local calls.

3. ANC is simple, straightforward and unconfused. ^{11/}

4. ANC is the least costly of all comprehensive plans.

5. Once customers get used to ANC, the all-numeral system is more accurate, faster and easier to dial. Numerals are also easier to locate on the dial than are letters.

6. Eventually letters can be removed from telephone dials, making the dial easier to read and leading to easier dialing by customers.

7. Elimination of letters from telephone numbers and dials will put an end to the natural confusion of the letter O with the numeral zero, and the letter I with the numeral 1.

8. Elimination of central office names will avoid the confusion of spelling and pronouncing some of the names that have been used for central office prefixes.

9. The 10 numerals are common to most countries and most telephone dials, but letters and their uses vary considerably. Thus, ANC avoids possible future problems and changes as international dialing is expanded.

^{11/} Customers may, if they wish, continue to place all calls with the operator, under ANC.

Findings

Upon consideration we find that:

1. The primary purpose of a telephone numbering plan is to facilitate the connection of a calling party with a called party in an efficient and accurate way to meet requirements of exchange and toll service both for the present and for a reasonable future period, with due regard for convenient public use and overall cost to users.
2. The decision to convert to all-number calling was a management decision reached after consideration of alternatives and after the results of laboratory and field trials were available.
3. No telephone numbering plan is perfect. All plans have their advantages as well as their disadvantages.
4. Some 96 percent of all originating calls in California are local calls; the remaining 4 percent are toll calls, of which less than one half of one percent are interstate or international toll calls.
5. All telephone dials have numerals associated with holes 1 through 9 and zero, but most telephones in California and in the rest of the continental United States and Canada have letters associated only with holes "2" through "9".
6. Without modifying all telephone dials in the continental United States and Canada, it is possible to obtain more three-digit central office codes by using three numerals than by using two letters and one numeral, provided interchangeable area and office code equipment is installed in central offices where required.
7. It is reasonable to expect that by about 1970 some 540 central office codes will be in service in numbering plan areas 213 and 415 in California as well as in some 14 other numbering plan areas in the United States.

8. Public preference polls introduced in evidence show that there are a substantial number of people who favor the name-prefix system over the ANC system. Such polls, however, do not provide an answer to the question of which system out of all the alternatives provides the best, least expensive and most practical solution to the anticipated shortage of central office codes.

9. Under either the name-prefix or ANC system the names and addresses of customers as well as their telephone numbers appear in telephone directories, the same pulls of the dial are used to dial a particular number, and calls may be made through the operator. Such automation or "dehumanization" as may result from conversion to ANC is not so significant as to require the retention of central office name prefixes without other justification.

10. Tariff Rule 17(D) of The Pacific Telephone and Telegraph Company, relating to changes in telephone numbers, and similar tariff rules filed by the other defendant telephone utilities provide that the utility may make "such reasonable changes in telephone number or central office designation as the requirements of the service may demand." The rule as filed does not contain any limitation concerning the extent or magnitude of changes in telephone numbers that may be made at any one time. The sole limitation is that the change is reasonably required. This Commission has jurisdiction to determine whether or not the conversion to ANC is reasonable.

11. Under any numbering arrangement, customers are neither required nor expected to remember telephone numbers. Local directories are made available with every telephone, customers are encouraged to look up numbers and write them down if necessary before dialing, customers are encouraged to keep their own list of

frequently called numbers, and information and operator services are available to every telephone customer. However, defendants should be required to undertake suitable studies looking toward further improvement in telephone number and rate information services provided the public by operators, by telephone directories and by other means, and to report the results in writing to the Commission.

12. The geographical location and significance of central office prefixes (whether in letter or all-numeral form) and the applicable charges, if any, are available in the information pages of telephone directories or can be obtained from the operator. However, defendants should be required to undertake studies looking toward further improvement in providing the public more readily available correlation between telephone numbers, geographical locations and telephone charges, and to report the results in writing to the Commission. The possibility of using telephone directory covers for this purpose should be included in such study.

13. The conversion to and operation under ANC has not resulted in undue dialing errors or unreasonably affected the overall service. Thousands of telephone calls are completed daily in areas in California that have been converted to and are operating under ANC.

14. Under all of the circumstances revealed by these proceedings, the conversion by defendants of telephone central office prefixes to their numerical equivalent is reasonable and cannot be said to be arbitrary, unnecessary, contrary to tariffs of defendants or contrary to the public interest.

15. Defendants should be required to report in writing to this Commission their experience with the use of access code "1"

particularly as its use may be affected by accidental preliminary depression of the switch hook and swinging line shorts, their current progress toward introduction in California of access codes to be dialed preceding all chargeable toll and multi-message unit calls and their future plans to implement the latest announced Bell System standard objective numbering plan discussed above.

16. Defendants should be required to study their practices and review their performance with respect to relieving customers of charges for misdialed calls, to the end that charges for misdialed calls are not assessed against customers. Report of the results of such study and review should be made in writing to the Commission.

17. Customers having optional services, including foreign exchange service, may use such services in ways that result in higher charges than would be obtained by placing each call over the particular service resulting in the least charge. While the use and control of such services is in the hands of customers, defendants have a responsibility to see that customers are fully informed on the most economical alternatives. Accordingly, defendants should be required to undertake a study of practices and review performance of customers having optional services to be assured that such customers are so informed. Report of the results of such study and review should be made in writing to the Commission.

18. To assist blind or elderly persons, young children and others to complete calls, defendants' operators should be required to accept, on an equal basis, telephone numbers given either in the name-prefix form or in the all-numeral equivalent.

19. Defendants should be required to undertake studies looking toward simplification of dialing local calls, particularly in smaller exchanges, and simplification of dialing toll calls between

adjacent numbering plan areas, particularly over the heavier traffic routes, and to report the results in writing to the Commission.

20. Defendants should be required to undertake studies looking toward practical and economical methods of better utilizing spare numbers that exist in numbering plan areas, and to report the results in writing to the Commission.

21. Defendant, Pacific Telephone, should be required to file semiannual reports in writing with this Commission showing the number of central office codes in use in each numbering plan area in California, segregated between those used for regular telephone service and those used for special services, with those used for special services further segregated by type.

22. Defendants should be restrained from removing letters from telephone dials and from providing telephone instruments without letters without first applying by formal application and obtaining prior authorization from this Commission.

23. The temporary restraining order issued against Pacific Telephone in Case No. 7504 on September 30, 1963 should be vacated.

24. Defendants should be required to report to the Commission in writing prior to making any basic modification in the objective numbering plan described in the foregoing opinion, including any proposed splitting of or additions to numbering plan areas in California, any increases or decreases in digits to be dialed, any renumbering of area codes or any large scale changes in central office codes.

25. Defendants should be required to report to the Commission in writing any departure from the uniform objective numbering plan that is proposed to be used by customers connected with the

proposed installation of electronic switching equipment in California.

26. Defendants should be required to file with this Commission in writing their plans for converting such of their telephones and directories to ANC as have not already been converted.

27. Defendants should be required to file with this Commission in writing their plans for the installation of interchangeable area and office code equipment in California.

28. These are not the appropriate proceedings in which to consider the cost to defendants of the conversion to ANC or the reasonableness of such costs for rate-making purposes. The findings and order herein are not to be considered as indicative of amounts to be included in pending or future proceedings for the purpose of determining just and reasonable rates.

29. The question of the expansion of local calling areas within the Los Angeles area is before the Commission in its investigation under Case No. 7409 and in Application No. 45726 of The Pacific Telephone and Telegraph Company.

30. All motions not heretofore ruled upon should be denied.

31. The relief prayed for by these complaints should be denied except to the extent ordered herein.

O R D E R

IT IS ORDERED that:

1. Defendants shall forthwith undertake studies looking toward further improvement in providing the public with telephone number and rate information services by operators, by telephone directories and by other means. The progress and results of such studies and the improvements that are adopted shall be reported

in writing to this Commission every sixty days after the effective date of this order for two years.

2. Defendants shall forthwith undertake studies looking toward further improvement in providing the public more readily available correlation between telephone numbers, geographical locations and telephone charges. The possibility of using telephone directory covers for this purpose shall be included in such studies. The progress and results of such studies and the improvements that are adopted shall be reported in writing to this Commission every sixty days after the effective date of this order for two years.

3. Within ninety days after the effective date of this order defendants shall file a report in writing with this Commission setting forth the following information:

- (a) Their experience with the use of access code "1" particularly as its use may have been affected by accidental preliminary depression of the switch hook and swinging line shorts.
- (b) Their present progress toward introduction in California of access codes to be dialed preceding all chargeable toll and multi-message unit calls, including the central offices where such access codes are in service.
- (c) Their future plans to implement the Bell System standard objective numbering plan discussed in the foregoing opinion.

4. Defendants shall forthwith undertake studies of their practices and review their performance with respect to relieving customers of charges for misdialed calls. The progress and

results of such studies and review and the improvements that are adopted shall be reported in writing to this Commission every six months after the effective date of this order for three years.

5. Defendants shall forthwith undertake studies of practices and review of performances of customers having optional services to be assured that such customers are fully informed on the most economical use of their service. The progress and results of such studies and review shall be reported in writing to this Commission every three months after the effective date of this order for two years.

6. Until further order of the Commission, defendants shall require their operators to accept, on an equal basis, telephone numbers given either in the name-prefix form or in the all-numeral equivalent.

7. Defendants shall forthwith undertake studies looking toward simplification of dialing local calls, particularly in smaller exchanges, and simplification of dialing toll calls between adjacent numbering plan areas, particularly over the heavier traffic routes. The progress and results of such studies and the improvements that are adopted shall be reported in writing to this Commission every six months after the effective date of this order for three years.

8. Defendants shall forthwith undertake studies looking toward practical and economical methods of better utilizing spare numbers that exist in numbering plan areas. The progress and results of such studies shall be reported in writing to this Commission every six months after the effective date of this order for four years.

9. The Pacific Telephone and Telegraph Company shall file semiannual reports in writing with this Commission showing the number of central office codes in use in each numbering plan area in California, segregated between those used for regular telephone service and those used for special services, with those used for special services further segregated by type. Such reports shall commence within sixty days after the effective date of this order and continue for five years.

10. Defendants hereby are restrained from removing letters from telephone dials, and are restrained from providing telephone instruments having no letters associated with numbers, without first applying by formal application and obtaining prior authorization from this Commission so to do.

11. The temporary restraining order issued against The Pacific Telephone and Telegraph Company in Case No. 7504 on September 30, 1963 is vacated.

12. Within thirty days after the effective date of this order, defendants shall file with this Commission in writing their plans for converting such of their telephones and directories to ANC as have not theretofore been converted.

13. At least thirty days prior to making any basic modifications in the objective numbering plan described in the foregoing opinion, including any proposed splitting of or additions to numbering plan areas in California, any increases or decreases in digits to be dialed, any renumbering of area codes or any large scale changes in central office codes, defendants shall advise the Commission in writing.

14. Defendants shall report in writing to this Commission any departure from the uniform objective numbering plan that is

proposed to be used by customers connected with the proposed installation of electronic switching equipment in California and any later changes in such plans. Such initial report shall be made within three months after the effective date of this order.

15. Within six months after the effective date of this order, defendants shall file with this Commission in writing their plans for the installation of interchangeable area and office code equipment in California, including, but not necessarily limited to, location, estimated in-service date, quantity of equipment at each location, estimated equipment cost at each location and estimated installation cost at each location.

16. All motions not heretofore ruled upon are denied.

17. Except to the extent ordered herein, the relief prayed for by complainants is denied.

nr. The Secretary of the Commission is directed to cause a ^{ed.} ~~certificated~~ copy of this order to be served forthwith upon each defendant and each complainant and to cause a copy to be mailed to each appearance of record.

The effective date of this order shall be twenty days after the date hereof.

Dated at San Francisco, California, this 17th day of March, 1964.

See enclosure #1
W.B. [unclear]
William W. Beards
President
[unclear]
George T. Grover
Fredrick B. Halloff

Commissioners

-41- Commissioner Everett C. McKeage, being necessarily absent, did not participate in the disposition of this proceeding.

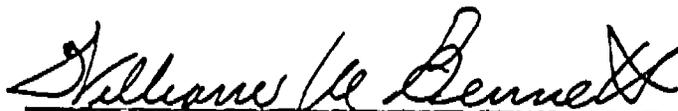
BENNETT, William M., Commissioner, concurring opinion:

This all began a long time ago when Neanderthal man scratched a crude number symbol on the wall of some prehistoric cave and started the relentless march of numbers. It was inevitable that mathematics and the invention of Alexander Graham Bell would become involved in an intimate union.

We are in a century of numbers in which our personal lives are recorded, and in some measure, controlled by numbers. The telephone is no exception.

It is no easy task to cast this vote upon the twilight years of such faithful servants as "Underhill," "Mission," "Lombard," "Madison," and others. These and other letter prefixes have served us long and well, but it is inevitable that we must recognize the cold hand of technology and the obsolescence it creates. Faithful friends must be dispatched to some other better place since they are no match for the ruthless competition and efficiency of digits. Digit dialing, as the opinion herein shows, is in a large measure already a fact and it is not consistent with maximum communication efficiency to cling to the letter prefixes. Sentiment cannot change this fact.

It is with a great deal of sweet sorrow and nostalgia, therefore, that I begin now to part company with those old and dear friends, "Mission," "Lombard," "Underhill," "Madison," and others. I fully appreciate the anguish which this will occasion to some but to retain such letter prefixes in today's economy is to place a limitation upon the maximum utilization of the telephone as an instrument of communication.


WILLIAM M. BENNETT, Commissioner

APPENDIX A

LIST OF APPEARANCES

IN CASES NOS. 7445 and 7449

Edward L. Blincoe, for himself and for Utility User's League of California, complainant in Case No. 7445.

Thompson & Oppen, by Richard D. Thompson and James J. Oppen, for complainants in Case No. 7449.

Arthur T. George, Francis N. Marshall, George H. Eckhardt, Jr., and Pillsbury, Madison & Sutro, for The Pacific Telephone and Telegraph Company, defendant.

A. M. Hart and H. Ralph Snyder, Jr., for General Telephone Company of California, defendant in Case No. 7445, and interested party in Case No. 7449, and for Sunland-Tujunga Telephone Company, interested party.

Bacigalupi, Elkus & Salinger, by William G. Fleckles and Claude N. Rosenberg, for California Water & Telephone Company, defendant in Case No. 7445 and interested party in Case No. 7449.

R. W. Russell, by K. D. Walpert, for the City of Los Angeles; William L. Knecht, for California Farm Bureau Federation; Stanley Sackin, for Telephone Answering Services of California, Inc.; Henry E. Jordan, by R. H. Bredenkamp, for the City of Long Beach; William W. Miller, for himself, interested parties. James G. Shields and Eugene S. Jones, for the Commission staff.

IN CASE NO. 7504

Melvin M. Belli and Hiram W. Johnson III, for Anti-Digit Dialing League, complainant.

Arthur T. George, Francis N. Marshall, G. H. Eckhardt, Jr., and Pillsbury, Madison & Sutro, for The Pacific Telephone and Telegraph Company, defendant.

James J. Oppen, for complainants in Case No. 7449, interested party.