

October 9, 1997

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Mr. William F. Caton
Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

Re: CC Docket No. 96-115
Telecommunications Carriers' Use of Customer Proprietary Network Information
Ex Parte Presentation by the Wireless Technology Research, L.L.C.

Dear Secretary Caton:

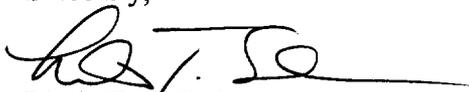
Please be advised that on October 9, 1997, the Wireless Technology Research, L.L.C., (WTR), represented by Dr. George Carlo, Chairman, Rebecca Steffens, and Linda T. Solheim, met with staff from the Commission regarding the above-referenced proceeding.

Attending this meeting from the Commission's Common Carrier Bureau, Policy Division, were: Dorothy Attwood, Senior Attorney, Lisa Choi, Attorney, Tonya Rutherford, Attorney, and Raeylnn Tibayian Remy, Attorney.

During this meeting, the WTR briefed the participants on "records-linkage" epidemiological studies as essential tools in researching potential risks to public health and the need for epidemiologists to have access to customer cellular telephone usage data through Commission clarification or forbearance.

Attached are two copies of the documents provided to the Commission staff and discussed at the meeting. Please place these two copies of this letter and the attachments in the record of the above-referenced proceeding.

Sincerely,



Linda T. Solheim
General Counsel

cc: Dorothy Attwood, Senior Attorney
Lisa Choi, Attorney
Tonya Rutherford, Attorney
Raeylnn Tibayian Remy, Attorney

Enclosures

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**EX PARTE PRESENTATION FOR THE
FEDERAL COMMUNICATIONS COMMISSION
COMMON CARRIER BUREAU-POLICY DIVISION**

**TELECOMMUNICATIONS CARRIERS' USE OF CUSTOMER PROPRIETARY NETWORK
INFORMATION CC DOCKET NO. 96-115**

**WIRELESS TECHNOLOGY RESEARCH, LLC
OCTOBER 9, 1997**

BACKGROUND

- WTR' s Research Program involves critical epidemiology research to determine whether users of hand-held portable wireless telephones with antennas operating near the head have a higher rate of death from brain cancer than users without such antennas.
- Research uses sample data reflecting time and duration of cellular telephone usage obtained from wireless telecommunications carriers.
- Some of data may arguably fall within definition of Customer Proprietary Network Information (CPNI) in Section 222 of the Communications Act of 1934 (Act).

REQUEST FOR FORBEARANCE

- WTR's epidemiology research meets the criteria for forbearance in Section 10(a) of the Act.
- FCC is authorized to forbear pursuant to the three-part test provided in Section 10(a) of the Act. 47 U.S.C. 160
- Class of telecommunications carriers for forbearance would include all wireless carriers that now provide or may in the future provide CPNI for WTR's epidemiology program.

THREE PART TEST

- *First*, those seeking forbearance must show that enforcement of the provision in question is not necessary to ensure the charges, practices, classifications, or regulations by, for, or in connection with that carrier or service are just and reasonable and are not unjustly or unreasonably discriminatory. (Section 10(a)(1))
- Precluding release of CPNI to epidemiologists for scientific research is neither necessary to ensure that wireless carriers charge just and reasonable rates, nor to ensure that charges, classifications, and practices are not unjustly or unreasonably discriminatory.
- Scientists' use of CPNI in conducting epidemiology research has no effect or impact on wireless carriers' existing charges, classifications, or practices.

THREE PART TEST (continued)

- **Second**, persons seeking forbearance must show that “enforcement of such regulation or provision is not necessary for the protection of consumers.” Section 10(a)(2).
- Protections built into WTR’s research program adequately protect the privacy of users of portable cellular telephones. Enforcement of Section 222 is not necessary.
- The research study protocols establish rigorous security procedures to protect the customer data.
- Study Protocol for the research being conducted by Epidemiology Resources Inc. (ERI) contains confidential data collection and backup procedures requiring computer and manual security measures.

THREE PART TEST (continued)

- **Security procedures include:**

Encryption procedures and compilation programs; off-site and on-site locked storage with sign-out requirements and return of data to locked cabinet or facility.

Encrypted and unencrypted programs are maintained in a compiled form that is impossible to list or to modify without access to the source code.

Secure software eliminating storage on a hard drive.

Specific programs can only be run with a "key" file that is stored off-site and is accessible only to the Principal Investigator.

Procedures for the deletion and wiping (data are overwritten) of information; and procedures for secure erasing or return of data to carrier providing the information.

THREE PART TEST (continued)

- Study Protocol requires that all data be kept strictly confidential and prohibits ERI from releasing information on any individual to any source outside ERI. Signed employee confidentiality statements ensure strict maintenance of confidentiality requirements.
- Reports and study results are presented as aggregate data and statistical summaries, ensuring no individuals are identified and no personal information is released.
- ERI study favorably peer-reviewed by independent peer review board coordinated by Harvard School of Public Health, Center for Risk Analysis.
- Study Protocol is part of the WTR/ERI contract and binds ERI to contractually fulfill all of the confidentiality requirements of Protocol.
- WTR's contracts with all researchers require that all data and other information that is not in the public domain be kept confidential.

THREE PART TEST (continued)

- ***Third***, persons seeking forbearance must show that “forbearance from applying such provision or regulation is consistent with the public interest.” Section 10(a)(3).
- Cellular Telecommunication Industry Association reports that 51.8 million Americans now use cellular telephones.
- By the year 2000, it is estimated that over 60 million Americans will be using portable cellular communication devices.¹
- Dean of the University of California (Berkeley), School of Public Health noted that no research has been completed on long-term human exposure to low levels of radiation specifically from portable cellular telephones.
- Unencumbered progress of the research is not only “consistent with the public interest,” but is “crucial” to the public interest.

¹U.S. General Accounting Office. Telecommunications: Status of Research on the Safety of Cellular Telephones. Report to the Chairman, Subcommittee of Telecommunications and Finance, Committee on Energy and Commerce, U.S. House of Representatives. GAO/RCED-95-32. U.S. General Accounting Office, 1994.

CONCLUSION

- FCC should forbear from enforcing Section 222 with respect to WTR-sponsored epidemiology studies.

Summary of Oral Ex Parte Presentation
October 9, 1997

Background

The WTR's Research Program involves critical epidemiology research to determine whether users of hand-held portable wireless telephones with antennas operating near the head have a higher rate of death from brain cancer than users without such antennas. See, WTR's written comments of June 26, 1996 filed in CC Docket No. 96-115; WTR's August 14, 1997 Notice of Ex Parte presentation to FCC. This research involves the use of sample data reflecting time and duration of cellular telephone usage obtained from wireless telecommunications carriers. Some of these data may arguably fall within the definition of Customer Proprietary Network Information (CPNI) in Section 222 of the Communications Act of 1934 (Act).

Request for Clarification

The WTR requests clarification that neither Section 222 nor any regulation the Commission may issue implementing that Section prohibits carriers from using, disclosing, or permitting access to CPNI for the purpose of scientific research associated with the provision of telecommunications services. As the WTR noted in its Reply Comments filed on June 26, 1996, such use of CPNI appears to be permissible under Section 222(c)(1) because the data is "necessary to, or used" in carriers' provision of telecommunications services. As the WTR also noted, the legislative history of Section 222 reflected that

Congress was concerned only with commercial, and not scientific, uses of CPNI. Thus, the WTR requests clarification that Section 222 authorizes carriers to furnish the WTR the data it needs for epidemiological research.

Request for Forbearance

Alternatively, the WTR believes that its epidemiology research meets the criteria for forbearance set forth in Section 10(a) of the Act. The FCC is authorized to “forbear from applying any regulation or any *provision of the Act* to a telecommunications carrier or telecommunications service, or class of telecommunications carriers or telecommunications services, in any or some of its or their geographic markets, if the Commission determines that” enforcement is not necessary, pursuant to the three-part test provided in Section 10(a) of the Act. 47 U.S.C. 160 (emphasis added). The provision of the Act applicable here is Section 222, which governs CPNI.

The relevant class of telecommunications carriers to which forbearance would apply includes all wireless telecommunications carriers that are presently or may in the future provide CPNI for purposes of the WTR’s epidemiology program.

Three Part Test

Persons or classes of persons seeking forbearance must meet a three-pronged test set forth in Section 10(a) of the Act. First, they must show that enforcement of the provision in question

is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or

telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory.

Section 10(a)(1) of the Act. Assuming that Section 222 applies to scientific research, enforcement of Section 222 is not necessary in the scientific research context to ensure the above-listed standards are met. Precluding release of CPNI to epidemiologists for scientific research is neither necessary to ensure that wireless telecommunications carriers charge just and reasonable rates, nor to ensure that their charges, classifications, and practices are not unjustly or unreasonably discriminatory. Scientists' use of CPNI in conducting epidemiology research simply has no effect or impact on wireless telecommunications carriers' existing charges, classifications, or practices.

Second, persons seeking forbearance must show that "enforcement of such regulation or provision is not necessary for the protection of consumers." Section 10(a)(2). As discussed above, the legislative history of Section 222 indicates that Congress's privacy concerns about CPNI were limited to commercial uses of such data. But even if Congress' concerns extended further than this, the protections built into the WTR's research program adequately protect the privacy of users of portable cellular telephones. Enforcement of Section 222 is thus not necessary to do so.

The study protocols for the research in issue establish rigorous security procedures to protect the data received from cellular telephone carriers. For example, the Study Protocol for the research being conducted by Epidemiology Resources Inc. (ERI), a summary of which is attached as Exhibit A , contains detailed data collection and backup

procedures, requiring both computer and manual security procedures. These include: (1) Encryption procedures and compilation programs; (2) Off-site and on-site locked storage with sign-out requirements and return of data to locked cabinet or facility; (3) Encrypted and unencrypted programs maintained in a compiled form that is impossible to list or to modify without access to the source code; (5) Secure software that eliminates storage on a hard drive; (6) Specific programs that can only be run with a "key" file that is stored off-site and is accessible only to the Principal Investigator; (7) Procedures for the deletion and wiping (data are overwritten) of information; and (8) Procedures for secure erasing or return of data to carriers providing the information.

The Study Protocol requires that all data be kept strictly confidential and prohibits ERI from releasing information on any individual to any source outside ERI. This is accomplished through signed employee confidentiality statements ensuring strict maintenance of these requirements.

Additionally, all reports and study results are presented in the form of aggregate data and statistical summaries, ensuring that no individuals are identified and no personal information is released. For example, ERI's first report on preliminary findings regarding overall mortality rates of customers of a large cellular telephone carrier included only statistical summaries and aggregate numbers. See, "Overall Mortality of Cellular Telephone Customers," Rothman, Loughlin, Funch & Dreyer, 1996, attached as Exhibit B.

The ERI study was favorably peer-reviewed by an independent board of peer

reviewers coordinated by the Harvard School of Public Health, Center for Risk Analysis. Additionally, the Study Protocol is part of the WTR/ERI contract and binds ERI to contractually fulfill all of the confidentiality requirements of the Study Protocol. Furthermore, the WTR's contracts with all researchers specifically require that all data and other information that is not in the public domain be kept confidential.

Third, persons seeking forbearance must show that "forbearance from applying such provision or regulation is consistent with the public interest." Section 10(a)(3). Cellular Telecommunications Industry Association reports that 51.8 million Americans now use wireless telephones. By the year 2000, it is estimated that over 60 million Americans will be using portable cellular communication devices.¹ As noted by the Dean of the University of California (Berkeley), School of Public Health, no research has been completed on long-term human exposure to low levels of radiation specifically from portable cellular telephones. The Dean commented on the importance of this particular epidemiology study:

Current available research findings are insufficient to conclude that there are no long-term adverse health effects -- either from handheld wireless communications devices or from cellular towers. This lack of evidence neither establishes the absence of an effect nor provides grounds for presuming that a hazard exists. It is this crucial gap that a large, new epidemiologic study of cellular telephone users seeks to address.

¹U.S. General Accounting Office. Telecommunications: Status of Research on the Safety of Cellular Telephones. Report to the Chairman, Subcommittee of Telecommunications and Finance, Committee on Energy and Commerce, U.S. House of Representatives. GAO/RCED-95-32. U.S. General Accounting Office, 1994.

“Cellular Telephones and Health,” Patricia A. Buffler, 1996, attached as Exhibit C. Unencumbered progress of the research is thus not only “consistent with the public interest,” but is “crucial” to the public interest.

Conclusion

The WTR submits that the FCC should clarify that Section 222 itself authorizes carriers to furnish CPNI to the WTR and its contractors for the purposes of its scientific research program. Alternatively, the FCC should forbear from enforcing Section 222 with respect to WTR-sponsored epidemiology studies.

EXHIBIT A

Exhibit A

ERI STUDY

***DISEASE SURVEILLANCE
PROGRAM FOR PORTABLE
CELLULAR TELEPHONE
USERS***

Summary Protocol

May 18, 1995

Epidemiology Resources Inc.

One Newton Executive Park, Newton Lower Falls, MA 02162-1450
617-244-1200 Fax 617-244-9669

ERI

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Overview

Epidemiology Resources Inc. (ERI) has initiated a cohort study of cellular telephone users. The main purpose of the study is to evaluate the hypothesis that use of hand-held cellular telephones increases the risk of death from brain cancer. Other causes of death will be assessed simultaneously with brain cancer.

Investigators

Principal Investigator:	Kenneth J. Rothman, DrPH Senior Epidemiologist Epidemiology Resources Inc. One Newton Executive Park Newton Lower Falls, MA 02162-1450
Co-Principal Investigator:	Nancy A. Dreyer, MPH, PhD President and Chief Executive Officer Epidemiology Resources Inc.
Project Manager:	Donnie Funch, PhD Senior Associate Epidemiologist Epidemiology Resources Inc.

Biographical sketches of these key personnel are shown in Appendix A to this protocol.

Goal

The study will evaluate the extent of increase, if any, in risk of death from brain cancer among a cohort of hand-held cellular telephone users. After the initial evaluation of the mortality rate of brain cancers and other causes of death, periodic surveillance of mortality in the same cohorts will be continued to determine whether there is evidence in favor or against a delayed increase in death rates.

Rationale

Case reports proposing a link between cellular telephone use and brain cancer have raised concern about possible adverse health effects of using hand-held cellular telephones, which emit radiofrequency (RF) radiation directly from the handset. RF energy has a low field strength that fades rapidly within a few centimeters of the transmitter, but there is some question as to whether these weak RF exposures might nevertheless have biological effects. Cellular telephones are becoming increasingly popular, with more than 16,000,000

subscribers recorded in 1993.¹ No epidemiologic study has yet been conducted on the use of cellular telephones and little evidence is available to evaluate this question.

Methodology

We are continuing to assemble rosters of cellular phone users for the study from the account and billing records of several cellular telephone companies. Existing telephone company records contain detailed information on telephone usage, as well as information that identifies the account holder. Using these records, we are assembling a large cohort of users of cellular telephones with sufficient identifiers for linkage to mortality records. The telephone company records provide accurate historical information on phone use and the equipment used to make the calls.

These data will be used to develop exposure indices that will permit classification of cohort members according to telephone usage patterns. We will assess exposure in several ways, depending on the extent to which existing records can be used to support dose reconstruction. Heavy users of hand-held cellular telephones will be compared with people who use these infrequently or never. Also, many telephone company customers are users of mobile (permanently installed in the automobile) and transportable ("bag") telephones that do not have the power unit in the handset. These units convey essentially zero microwave exposure to the user. People who use mobile and bag telephones, however, have demographics similar to those who use hand-held telephones, and therefore constitute a useful comparison group for the hand-held telephone users. Ultimately it may be possible to create an exposure metric that accounts for number and length of calls, density of cell sites in user's local area and type of telephone unit.

Once the cohort rosters are complete, we will search the National Death Index (NDI), along with other mortality databases, to identify the members of the study cohort who have died. ERI will request death certificates for all identified deaths. These certificates will be reviewed by a nosologist to code each death by cause using the ninth revision of the International Classification of Diseases (ICD). We shall calculate cause-specific mortality rates and then make comparisons between various subgroups according to type and amount of telephone use.

The initial mortality evaluation will not have sufficient information to evaluate a delayed effect of hand-held cellular telephone use on brain cancer mortality. While there are some people who have been using hand-held cellular telephones for several years or more, the proportion of such users is small, and they do not provide sufficient numbers to evaluate the risk for a rare outcome such as brain cancer. Once the cohort is established, however,

¹The Wireless Factbook, Cellular Telephone Industry Association, Washington, D.C., 1994

continuing periodic surveillance will enable us to evaluate the possible delayed effects of telephone use on brain cancer, as well as other effects of long-term use of cellular telephones. Therefore, ERI will continue to maintain the roster of cohort members so that periodic surveillance can be conducted.

Data Requirements for Participating Cellular Telephone Carriers

The data required from each cellular telephone carrier relate to three aspects: individual phone users, their patterns of use (billing data) and information about the cell site density for the areas covered by each carrier.

Creation of a cohort of cellular telephone users from each participating company is implemented in three stages. The first stage is the definition and selection of the cohort members. This step involves defining the criteria for membership into the cohort and the collection of some basic account information and personal identifiers. The second stage includes the collection of actual billing information for each of the customers in the cohort. The billing information of interest is from the time period immediately preceding the date the cohort is established so each customer's exposure can be characterized at entry. Follow-up begins at the date the cohort is established and continues until the study is concluded. The final stage adds information that will allow the calculation of cell site density per market served.

Definition and Selection of the Cohort Members

Generally we ask for information for all customers with current mobile identification numbers as of January 1, 1995 or the earliest year for which complete data are available. From this initial roster of current customers, the following categories of accounts should then be deleted.

- mobile identification numbers with less than two complete billing months prior to 1/1/95, or the earliest full calendar year available
- corporate accounts - these accounts may be identified through a corporate ID field or special characters in the Social Security number field
- accounts with more than one phone (for the earliest cohort year only) - these accounts may be identified by a field that counts the number of phones linked to a single account or a flag for a "family" or "household" account. The goal is to identify "one-phone customers" in the earliest cohort.

For each remaining mobile number we require some basic account information and personal identifiers of the account holder.

- mobile identification number
- account number
- electronic serial number (ESN)
- Social Security number
- phone type, where available
- start of service date
- name
- address
- city, state, zip
- date of birth, where available

Billing Information

With a start of follow-up date of January 1, 1995 (or the earliest full calendar year available), billing information from November and December of the prior year will be used to characterize the extent of phone use of each customer in the cohort. The variables of interest include:

- mobile identification number status (all should be active)
- total monthly minutes (from invoice, rounded minutes are acceptable)
- total number of monthly calls

Cell Site Density (number of towers per mile²)

Cell site density is known to vary greatly between metropolitan and rural markets and provides a supplemental measure of exposure. For each cohort year and for each market included in the cohorts, to the extent feasible we are requesting:

- number of towers as of the end of the previous year
- number of CGSA miles² covered as of the end of the previous year
- the area code and exchange (NPA-NXX) combinations served as of the end of the previous year

Study Size

Eventually we hope to have information on at least 8 million person-years of cellular telephone use. ("Person-year" is an epidemiologic term that connotes one year of follow-up observation on one person.) The first company to contribute data is Southwestern Bell Mobile Systems; we have already accumulated about two million person-years of observation. Other telephone companies have expressed interest in participating, and we hope to enroll more in the near future.

Security

ERI understands that participating phone companies are providing sensitive combinations of variables. ERI's most recent protocol for security is attached to this document as Appendix B.

Confidentiality

It is the policy of ERI to treat all data as confidential. Although names must be used for identification purposes, ERI will not release information on any individual to any source outside ERI. Research sponsors will not be provided access to information on another company's customers, nor to any information on specific illnesses or causes of death that could be linked to individual cellular telephone customers.

All ERI employees are committed to strict maintenance of this confidentiality policy; every ERI employee has signed a confidentiality agreement as a condition of employment. All reports will be presented in the form of aggregated data and statistical summaries, with no individuals being identified. A copy of the confidentiality agreement signed by all ERI staff is available for review on request.

Overview of Tasks

- Task 1** Develop and implement plans for data management
 - 1.1 Design data base
 - 1.2 Adapt ERI Standard Operating Procedures for Editing Data for project, including checks for logic and duplicate records, and the assignment of a unique study identification number to each study subject
 - 1.3 Develop encryption and storage procedures for sensitive data elements
 - 1.4 Develop procedures for creation and maintenance of data backup program

- Task 2** Acquire data from each participating cellular telephone carrier
 - 2.1 Acquire information identifying individual telephone users and their cellular telephones
 - 2.2 Acquire data on telephone use for November and December of year preceding entry into study
 - 2.2.1 Minutes of use by month
 - 2.2.2 Number of calls by month

- 2.3 Implement security procedures
 - 2.3.1 Assign unique study identification number to each customer
 - 2.3.2 Encrypt key sensitive data elements and separate from main database
 - 2.3.3 Store encrypted data in secure off-site location
- 2.4 Acquire data on density of cell sites by location for markets
- Task 3** Acquire data from cellular telephone manufacturers to classify cellular telephones as hand-held (portable) vs. mobile or transportable
 - 3.1 Implement procedures for encryption of ESN if not already encrypted by carrier before submission
 - 3.2 Develop and implement procedures for selective unencryption of ESN and transmission of ESN and study identification number to manufacturer
 - 3.3 Link phone type and ESN to master database using study identification number
- Task 4** Acquire supplementary data from other sources for individuals as needed (e.g., gender and date of birth may not be available from cellular telephone carriers, but may be obtained from credit bureaus)
- Task 5** Work with Exposure Assessment Committee to develop exposure models
- Task 6** Initiate record linkage with death indexes to identify deaths
- Task 7** Obtain death certificates; code and enter cause of death
- Task 8** Analyze data and prepare report(s)
 - 8.1 Analyze data
 - 8.2 Draft report(s)
 - 8.3 Obtain qualified reviews of draft report(s)
 - 8.4 Finalize reports and submit to Wireless Technology Research, L.L.C.
- Task 9** Maintain cohort rosters and periodically add new users; continue mortality surveillance.
- Task 10** Design and implement ancillary studies as appropriate