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

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| In the Matter of | ) | |
| | ) | |
| Telecommunications Relay Services | ) | CC Docket No. 98-67 |
| and Speech-to-Speech Services for | ) | |
| Individuals with Hearing and Speech | ) | |
| Disabilities | ) | |

# COMMENTS OF GTE SERVICE CORPORATION

Dated: May 5, 2000

GTE Service Corporation and its affiliated domestic telephone operating companies


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TABLE OF CONTENTS

PAGE

SUMMARY ..... ii

I. DISCUSSION ..... 2

A. GTE SUPPORTS ESTABLISHING A SEPARATE NATIONAL 800 NUMBER DEDICATED TO SPEECH-TO-SPEECH (STS) RELAY SERVICE ..... 2

B. IT IS NOT NECESSARY TO AMEND THE RULES TO ALLOW TRS PROVIDERS ACCESS AND USE OF SS7 DATA ..... 4

C. GTE SUPPORTS THE COMMISSION'S PROPOSAL TO ESTABLISH A NATIONWIDE AWARENESSS CAMPAIGN. ..... 9

D. GTE PROVIDES COMMENTS ON VARIOUS TECHNOLOGIES, FEATURES AND SERVICES. ..... 12

1. Call Release ..... 13

2. Automatic Call Forwarding ..... 13

3. Call Waiting ..... 13

4. Call Return and Call back ..... 14

5. Three Way Calling ..... 14

6. Speed Dialing ..... 15

7. Distinctive Ringing ..... 15

8. Repeat Dialing ..... 16

9. Improved Transmission Speed ..... 16

10. Use of World Wide Web for Voice Transmission ..... 16

II. CONCLUSION ..... 16

## SUMMARY

In the Further Notice of Proposed Rulemaking ("FNPRM"), the Commission seeks comment on a number of proposals designed to improve telecommunications relay services ("TRS"). In particular, the Commission seeks comment on whether to establish a national 800 number for speech-to-speech ("STS") relay service, whether to allow TRS centers to receive and use signaling system 7 ("SS7") information, and whether to establish a national outreach program to inform users about TRS.

GTE supports adopting a national 800 number to be used by STS TRS callers. GTE believes that 800 access for STS users will alleviate problems such callers have in using standard (711) TRS access.

GTE opposes any effort by the Commission to enable TRS centers to receive and use SS7 information. GTE does not believe receiving SS7 information will eliminate the problems associated with caller ID on TRS calls or obviate the need for TRS centers to manually collect information from TRS customers to build customer databases. Given that modifying TRS centers to be able to receive SS7 information would be costly, GTE does not believe the costs justify the rather modest benefits. In stead, GTE recommends that TRS centers continue to receive and use the caller information passed through feature group D access.

Finally, GTE supports adopting a national TRS outreach program. However, GTE believes the national program should complement, not replace state outreach programs. GTE also believes the national outreach program should include information about coin sent-paid TRS calls.

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## COMMENTS OF GTE SERVICE CORPORATION

GTE Service Corporation and its affiliated domestic telephone, wireless, and long distance companies (collectively "GTE")[1] respectfully submit these comments in response to the *Report and Order and Further Notice of Proposed Rulemaking* ("*Report and Order*" or "*FNPRM*") released by the Federal Communications Commission ("FCC" or "Commission") on March 6, 2000 in the above-captioned proceeding. In the *FNPRM*, the Commission raises additional issues for comment as part of its ongoing effort to evaluate technology as it relates to the needs of persons with hearing and speech disabilities. The Commission also seeks comment on emerging and existing

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[1] These comments are filed on behalf of GTE's affiliated domestic telephone operating companies, GTE Wireless Incorporated, and GTE Communications Corporation. GTE's domestic telephone operating companies are: GTE Alaska Incorporated, GTE Arkansas Incorporated, GTE California Incorporated, GTE Florida Incorporated, GTE Hawaiian Telephone Company Incorporated, The Micronesian Telecommunications Corporation, GTE Midwest Incorporated, GTE North Incorporated, GTE Northwest Incorporated, GTE South Incorporated, GTE Southwest Incorporated, Contel of Minnesota, Inc., and Contel of the South, Inc.

technologies for further evaluation in improving the quality of relay services and expanding the kinds of relay services offered to consumers in the future.

GTE is a major telecommunications service provider and, through its subsidiary GTE Hawaiian Telephone Company ("GTE Hawaii"), is the designated Telecommunications Relay Service (TRS) provider for the State of Hawaii. GTE supports the goals of Title IV (TRS) of the Americans with Disabilities Act of 1990, to ensure greater access to and improvements in TRS. In these comments, GTE addresses the proposals made by the Commission with respect to a separate nationwide access number for STS relay service, the availability of SS7 to TRS centers, and a nationwide outreach program. GTE also submits comments addressing technologies, features and services.

## I. DISCUSSION

### A. GTE SUPPORTS ESTABLISHING A SEPARATE NATIONAL 800 NUMBER DEDICATED TO SPEECH-TO-SPEECH (STS) RELAY SERVICE

Speech-to-Speech ("STS") relay service involves the use of specially trained Communication Assistants (CAs) who understand the speech patterns of persons with speech disabilities and can repeat the words spoken. In the *Report and Order*, the Commission adopted a new requirement that all common carriers provide STS relay service for callers with speech disabilities throughout the carriers' service areas by March 1, 2001.[2] In the *FNPRM,* the Commission seeks comment as to whether it is

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[2] *Report and Order*, at ¶¶14-20.

desirable to establish a separate national 800 number for STS relay service. Alternatively, the Commission asks whether 711 access can meet this need.

GTE supports establishing a separate national 800 number dedicated to STS relay service. As a provider of relay service in Hawaii, GTE became the first telephone company in the United States to offer a convenient TRS access using standard three-digit N11 codes. GTE has deployed 711 (access for text telephone or "TTY"[3]) and 511 (access for voice) as well as a standard local number for access to its TRS center. GTE is concerned, however, that using normal access methods for STS relay service may create problems for STS users.

On a typical TRS call, a relay communications assistant ("CA") will greet the caller by announcing the name of the TRS center and possibly, as in GTE Hawaii's Relay Center's practice, proceed to ask for the caller's telephone number. After approximately four seconds of silence, the CA will assume the caller to be either a Baudot[4] or ASCII[5] caller and advance the answer sequence to Baudot or ASCII text which proceeds to send out text identifying information as "_____ TRS Center (i.e. - GTE Hawaii TRS Center). Nbr pls (Number please). GA (Go Ahead)." Once the call

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[3] Text telephone (TTY) is a machine that employs graphic communication in the transmission of coded signals through a wire or radio communication system.

[4] Baudot is a seven-bit code, only five of which are information bits. Baudot is used by some text telephones to communicate with each other at a 45.5 baud rate.

[5] ASCII is an acronym for American Standard Code for Information Interexchange which employs an eight-bit code and can operate at any standard transmission baud rate including 300, 1200, 2400, and higher.

has been routed through the sequence of voice, Baudot, and ASCII, the call is then terminated.[6]

Accordingly, an STS caller has only about four seconds to identify him- or herself as an STS caller. Unfortunately, persons with speech impediments or other STS users may not be physically capable of identifying the nature of the call in the time allotted. In light of this timing issue, GTE believes the use of 711 access could present confusion and frustration to STS callers. GTE is also concerned that nationwide deployment of 711 access to TRS may not be attainable in all states in time to meet the March 1, 2001 deadline established by the Commission to implement STS relay service.

To avoid these potential problems, GTE advocates establishing a simple and easy to remember 800 national STS relay access number. A dedicated 800 access number ensures that a relay center will accurately identify the call as an STS call and make the appropriate arrangements for a specially trained STS CA to receive the caller. An 800 data base application will need to be established to route the STS relay call to the relay center from the state from which the call originated. Once established, a dedicated number would provide persons traveling in different states the added convenience in needing to remember only one simple access number.

### B. IT IS NOT NECESSARY TO AMEND THE RULES TO ALLOW TRS PROVIDERS ACCESS AND USE OF SS7 DATA

The Commission seeks comment on whether to allow TRS centers to access and use Signaling System 7 (SS7) data. The Commission states that access to this

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[6] It should also be noted that TRS centers receive a fair volume of mis-dialed calls.

data would be beneficial because it would enable TRS centers to receive information (such as the presubscribed carrier and the originating number) that may enable the centers to provide Caller ID and improved access to 911. The Commission also reasons that access to SS7 data may obviate the need for TRS centers to collect some information manually through caller profiles.[7]

GTE opposes enabling TRS centers to access and use SS7 data.[8] GTE believes that such access will not provide the benefits the FCC identified in the *FNPRM.* In addition, upgrading TRS centers to utilize the SS7 protocol would require significant and costly modifications. Prior to addressing the Commission's comment request more specifically, however, GTE believes it is helpful to understand the design and application of SS7 technology and its relationship to the Commission's inquiry as to whether TRS providers should be lawful recipients and users of SS7 data.

SS7 is the transport protocol utilized by the network to carry signaling information to SS7 capable nodes for trunk assignments and various other signaling information. The information required to identify a customer is contained in the SS7 message stream. Because TRS Centers are not part of the SS7 network, however, this information is not passed through to the TRS center via SS7.

TRS centers utilize Feature Group D (FGD) to receive and transmit information pertinent to the customer. Thus, TRS Centers receive FGD information which is passed as part of the actual call. FGD information contains data known as Automatic

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[7] *FNPRM*, at ¶ 127.

Number Identification (ANI) and "II" digits which identifies the originating line as a residence, coin, hotel, etc. The FGD information is handled by the TRS center's Automated Call Distribution (ACD) system.

In the *Report and Order*, the Commission justifies its proposal to provide access to SS7 data to TRS centers in part by stating that access to such data will improve the efficiency with which TRS centers collect information for databases profiling TRS users. In particular, the Commission suggests that since some of the information presently collected manually is included in SS7 data, access to SS7 data would enable TRS centers to collect information more efficiently and provide better relay services.[9]

GTE disagrees that access to SS7 data will significantly improve the efficiency with which TRS centers collect information from customers. First, as noted above, TRS centers currently have access to customer identification information passed through FGD. Second, GTE Hawaii's TRS center experience finds that profiles built on TRS subscribers contain data that would not necessarily be part of an SS7 transmission stream. Data such as preferred calling habits, addresses and subscriber equipment cannot be transmitted via any protocol in today's network. Because this information would continue to need to be collected manually even if TRS centers had access to SS7 information, TRS center efficiency would not be significantly improved by providing access to SS7.

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[8] GTE would also strongly oppose any requirement that TRS centers be able to receive and use SS7 information.

[9] *FNPRM*, at ¶ 128.

The Commission also justifies its proposal to facilitate access to SS7 data by concluding that such access will resolve problems between relay and Caller ID service. In particular, previous comments note that in today's environment the displayed Caller ID number often is a number for the TRS center, or the number of the calling party, or sometimes not available. The Commission is concerned that because some caller ID customers use the service to screen calls, caller ID customers may not answer incoming TRS calls. The Commission reasons that if the called party knew the identity of the calling party, or that it was coming from a TRS center, they may be more likely to answer the call.[10]

Access to SS7 data, however, will not resolve the caller ID problem. As noted above, TRS centers already have customer information transmitted via FGD. Thus, the key to solving the caller ID problem lies not in providing access to SS7 information, but rather in updating the equipment in the terminating central office to facilitate caller ID. GTE, for its part, is currently upgrading its terminal equipment in the Hawaii TRS center. These upgrades, which should be completed by the 3rd quarter of this year, will add the software necessary to transmit information sufficient to identify the calling party. The information can then be displayed on TTY or Caller ID equipment.

Thus, providing access to SS7 information to TRS centers will not significantly improve the quality of relay service. Moreover, carriers would be required to undertake significant and costly modifications to the TRS center to be able to utilize SS7 protocol. Given the minimal impact such modifications would have on carriers' ability to provide

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[10] *Id.,* at ¶ 129.

functionally equivalent relay services, GTE does not believe the benefits justify the costs.

Finally, if SS7 technology is not the choice of all TRS centers, the Commission seeks comment regarding the relative advantages and disadvantages of using Feature Group D (FGD) Automatic Number Identification (ANI) and Private Branch Exchange trunk signaling.[11] As discussed above, GTE believes FGD is a reasonable alternative to SS7 access. Information required to identify a customer is available in the FGD information which is passed as part of the actual call.

To illustrate how the system works, in Hawaii, GTE's system consists of a Wide Area Network/Local Area Network (WAN/LAN) type of network utilizing a Transmission Control Protocol/Internet Protocol (TCP/IP) system to manage and distribute calls and data items to the TRS operator's position. This system is served by a Nortel DMS 200 Toll Operator Position System (TOPS) office with Intelligent WorkStation (IWS) positions being the TRS operators tool of the trade. The TOPS DMS 200 switch, which serves the TRS center, receives SS7 protocol from the network on a call for service. This SS7 path request establishes a trunk and in turn the path signals a FGD data scheme to deliver the information to the IWS position. GTE Hawaii's TRS center utilizes SS7 to deliver the calls to the switch and FGD and TCP/IP signaling to fill the IWS positions with the data from the calling party and in reverse for the outbound call from the position to a called party. Thus, GTE uses SS7 in the network, but not in Hawaii's TRS center, as it is a TCP/IP protocol environment.

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[11] *Id.*, at ¶ 133.

### C. GTE SUPPORTS THE COMMISSION'S PROPOSAL TO ESTABLISH A NATIONWIDE AWARENESSS CAMPAIGN.

In the *FNPRM*, the Commission tentatively concludes that TRS service would be improved with a nationwide awareness campaign that would potentially reach all TRS users. The Commission seeks comment on whether the outreach effort can be supported by the interstate TRS Fund and whether the interstate TRS Fund administrator could administer the funding for educational outreach programs. The Commission proposes to amend the Interstate TRS Fund Advisory Council's mission to include establishing guidelines and a procedure to fund a coordinated national outreach campaign.[12]

GTE supports a nationwide awareness campaign for TRS. GTE agrees that a national outreach program would be the most cost-effective way to educate the general public on the availability of TRS. While the Commission's discussion on the funding mechanism is fairly limited, GTE generally supports funding the national outreach program through the interstate TRS fund.

The national outreach program, however, would not obviate the need for individual state outreach programs. First, local and state outreach programs can often be very effective forms of outreach in the area of TRS education. Representatives of the TRS user community have frequently told GTE that the most effective form of outreach is accomplished on a local level and a personal basis. Community meetings and one-on-one discussions that allow more hands-on demonstrations on the use of

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[12] *Id.*, at ¶ 134.

TRS produce an excellent learning environment for users. The national outreach program should be cognizant of state outreach plans and not duplicate efforts best left to state programs.

Second, GTE believes the FCC lacks the authority to fund through the interstate TRS fund a national outreach program that would undertake intrastate outreach activities. Both Section 225(d)(3)(B) of the Communications Act and Section 64.604(c)(4)(ii) of the Commission's rules provide that costs caused by interstate TRS shall be recovered from all subscribers for every interstate service. Costs caused by intrastate TRS providers, however, must be recovered from the intrastate jurisdiction.[13] Accordingly, any national outreach program funded by the interstate TRS fund must be limited to interstate outreach activities.

While GTE does not believe a national outreach program can replace state awareness programs, GTE does believe a national program can complement state programs. Towards that end, GTE recommends that the Advisory Council give careful consideration to the individual state's TRS outreach activities. The Advisory Council's final plans should include important consideration of what states are doing in this area, and any national plan should dovetail with the existing state programs. GTE also recommends that the national outreach program create partnerships with various constituency organizations. The Advisory Council should attempt to ensure to include a fair and balanced cross-representation of ideas on outreach.

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[13] 47 U.S.C. § 225(d)(3)(b); 47 C.F.R. § 64.604(c)(4)(ii).

Finally, GTE recommends that the nationwide outreach program include information about TRS coin sent-paid (CSP) calling. In 1995, the Commission suspended the enforcement of its rules requiring that TRS be capable of handling coin sent-paid calls.[14] In the interim, the Commission has accepted an "Alternative Plan" proposed by parties that enables individuals with hearing and speech disabilities to use traditional payphones using payment methods other than coins. The Alternative Plan requires common carriers and TRS providers to: (1) enable TRS users to make local TRS payphone calls free of charge; (2) enable TRS users to make toll calls by calling card or prepaid (debit) cards at rates equivalent to or less than those that would apply to similar non-TRS calls made using coin sent-paid service (coin call rates); and (3) develop programs to educate TRS users about alternative payment methods and to make calling cards and/or prepaid cards available to TRS users.[15]

GTE, along with numerous other carriers (ILECS and IXCs), TRS providers, and the American Public Communications Council (APCC), formed an industry TRS CSP team to educate users on the components of the Alternative Plan. GTE strongly recommends that the Commission include education on TRS CSP calling in the nationwide outreach program.[16] Including outreach on TRS CSP calling is consistent

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[14] Telecommunications Relay Services, and the Americans with Disabilities Act of 1990, *Memorandum Opinion and Order*, CC Docket No. 90-571, 10 FCC Rcd 10927 (CCB 1995) ("1995 Suspension Order").

[15] Telecommunications Relay Services, and the Americans with Disabilities Act of 1990, *Order*, CC Docket No. 90-571 (released August 21, 1997) at 4, ¶ 6.

[16] GTE intends that including TRS CSP education efforts as part of the national outreach program would complement, not replace education efforts already under way.

with the Commission's objective to accomplish a more efficient, consistent, and effective awareness campaign to improve the public's understanding of TRS.

### D. GTE PROVIDES COMMENTS ON VARIOUS TECHNOLOGIES, FEATURES AND SERVICES.

The Commission seeks comment on various technologies, features and services that enable consumers with disabilities to communicate through the relay service. GTE offers these comments to support the continued development of improved technology that enhances greater access and availability of telecommunications to persons with disabilities. The following is a preliminary assessment by GTE of ten of the features listed in the Commission's discussion on technologies, features and services.

Of the ten features assessed during this analysis, seven of the features are currently offered by GTE in a conventional "non-TRS" environment. GTE has determined that with a minimum investment and with a medium to high additional labor factor, three of the features (three way calling, speed dialing, and repeat dialing) could be accomplished through a CA. Five features (distinctive ringing, call waiting, return call, call release, and call forwarding) are not associated with a CA/TRS environment. Finally, two features (improved transmission speed and use of World Wide Web for voice transmission) are overall technology issues that are constantly being reviewed for use with conventional and TRS calling. Following are the comments associated with each of the features GTE has reviewed.

### 1. Call Release

Description**:** Call release occurs when a caller, using a TTY, originates a call to an agent such as a hotel desk and requests to be transferred to room xxx. During the transfer of the call, a call processing anomaly occurs whereby the call is disconnected and the caller must call again. This network anomaly does not occur on every call and only occurs during calls where a TTY is used. This anomaly will also occur on TRS calls where the CA is originating a TTY call to an agent as mentioned above.

Assessment: GTE's understanding of this issue is that during a TRS call, the call release problem does not exist since the CA would be placing the call to the hotel or other operator served system. In addition, it appears that this problem is associated with the TTY device not recognizing the momentary open (the switchhook flash or "wink") where the transfer takes place and drops the call. Further tests would be required to more fully understand the facets of this problem.

### 2. Automatic Call Forwarding

Description: During a conventional non-TRS call, a customer has the ability to forward incoming calls to another phone number.

Assessment: GTE's assessment of this feature is that it is a terminating line issue only and is currently available on all GTE lines as a vertical service.

### 3. Call Waiting

Description: During a conventional "non-TRS" call, call waiting is a switch-based feature whereby a caller is engaged in an active call and a new incoming call is attempted. The called party will receive a short burst of tone to alert them of the new

call. Upon hearing the tone, the caller can switchhook flash and receive the call while placing the other caller on hold.

Assessment: When a TRS call is in progress and a call arrives at either the called or calling party's line, the CA cannot detect the tone since they are not on the receiving side on either of the lines. Therefore, this issue is not particularly associated with the TRS center. However the feature could be made to function with an adjustment to the features of a TTY whereby the TTY could detect the tone and provide a "call waiting" message to print on the screen.

**4. Call Return and Call back**

Description: Call return/call back is a switch-based feature whereby the number of the last incoming call can be re-dialed through a simple two-digit code. As an example, depending on the technology type, a person may only need to input *69 to call the number of the last incoming call.

Assessment: This feature is available on all GTE deployed switching systems and is activated by the calling party. However, given that the last incoming number is stored in the memory of the originating end office and not available outside the switch, this feature is out of the control of a CA in a TRS environment.

**5. Three Way Calling**

Description: On a conventional non-TRS call, the subscriber has the capability to connect a third party to their conversation through a switchhook flash (either to add an incoming calls from call waiting or to originate a new outgoing call.)

Assessment: In a TRS environment, a link to a third party could be performed with additional lines and equipment, (medium investment) although the call may be very difficult for a single CA to manage.

### 6. Speed Dialing

Description: On a conventional non-TRS call, the subscriber has the capability to dial several numbers from a list using only a two-digit code. This feature is usually offered with either a short list or a long list (8 or 20 respectively) of numbers that the subscriber wants to have on their "speed dial list".

Assessment: GTE currently offers this feature from all locations it serves. In a TRS environment, although a subscriber could use speed dialing to reach the CA, there currently is no method of providing speed dialing on the outbound side of the CA. To facilitate a speed dial list on the outbound side for the CA for each customer, a special database would be required for each caller's profile. The calling party conceivably then would key SC1, SC2, etc. to signal the CA to originate the associated 10-digit number. Provisioning speed dialing in this manner would be costly from an equipment, management, and CA labor perspective.

### 7. Distinctive Ringing

Description: During a conventional non-TRS call, the subscriber has the capability to have special ringing assigned (such as two long, one short rather than the normal repeated single long rings) as a means of identifying certain types of calls.

Assessment: This feature is currently available for all GTE customers on an incoming call basis. In GTE’s view, this feature is not associated with a TRS call but certain incoming numbers could be provisioned to provide a different ring.

### 8. Repeat Dialing

Description: During a conventional non-TRS call, the subscriber has the capability to repeatedly dial a number through the use of a key on the telephone set or through the use of a two digit code when switch-based.

Assessment: In a TRS environment, the "last number dialed" would need to be stored in an electronic customer profile. When the customer reaches the CA, they would request the Last Number Dialed (LND) via a special short message such as LND. The CA would then pull up the profile, find the LND, and originate the call. Based on GTE's preliminary review, provisioning repeat dialing in this manner would require a medium investment and could be very labor intensive for CAs.

### 9. Improved Transmission Speed

Improving transmission speed to exceed higher than average keying skills requires further study. However, web based access with use of a conventional PC versus a TTY may slightly improve speed of transmission.

### 10. Use of World Wide Web for Voice Transmission

The use of the World Wide Web for voice transmission is being researched by the industry for use in conventional calling and may have future applications to TRS. Further investigation is required for this technology.

## II. CONCLUSION

GTE supports the Commission's proposals to improve the quality of relay services and to expand the kinds of relay services available to consumers in the future. As such, as discussed above, GTE supports adopting a uniform nationwide 800 number for STS relay service access. GTE also supports a nationwide interstate TRS

outreach program. GTE opposes, however, the Commission's proposal to provide access to SS7 information at TRS centers.

Dated: May 5, 2000

Respectfully submitted,

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