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IMPROVEMENTS IN FEDERAL COURT REPORTING PROCEDURES

REPORTING
SUBCOMMITTEE ON COURTS
OF THE
COMMITTEE ON THE JUDICIARY
UNITED STATES SENATE

FIRST SENATE CONFERENCE

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REPORTING PROCEDURES

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BEFORE THE
SUBCOMMITTEE ON COURTS
OF THE
COMMITTEE ON THE JUDICIARY
UNITED STATES SENATE
NINETY-SEVENTH CONGRESS

FIRST SESSION
ON
IMPROVEMENTS IN FEDERAL COURT REPORTING
PROCEDURES

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IMPROVEMENTS IN FEDERAL COURT REPORTING PROCEDURES

FRIDAY, JUNE 26, 1981

U.S. SENATE,
SUBCOMMITTEE ON COURTS,
COMMITTEE ON THE JUDICIARY,
Washington, D.C.

The subcommittee met, pursuant to notice, at 1:30 p.m., in room 2228, Dirksen Senate Office Building, Senator Bob Dole (chairman of the subcommittee) presiding.

Staff present: Richard Velde, chief counsel; Virginia A. Goddard, counsel; Arthur Briskman, minority counsel; Linda E. White, chief clerk; Linden Kettlewell, counsel, Subcommittee on Regulatory Reform; Robert Feidler, minority counsel, Subcommittee on the Constitution; and Lynda Nersesian, counsel, Subcommittee on Agency Administration.

OPENING STATEMENT OF CHAIRMAN ROBERT DOLE

Senator DOLE. The hearing will come to order.

Let me first welcome those appearing here today for this hearing. There are not too many Senators around today because we were in session until about midnight and I guess some went back to their States today.

We have convened this hearing to hear testimony on the subject of court reporting. We are pleased to welcome a distinguished array of witnesses representing the many persons who participate in the administration and performance of this element of the judicial process.

The Federal Court Reporters Act was originally passed in 1944. This statute, with some amendments, is still in force today governing the court reporting function in the Federal courts. Today is the first time in the 37 years since this statute was enacted that oversight hearings have been held to examine how well it has served our court system and its litigants.

Court reporting is a term we have chosen to apply to a function which is vitally important to our judicial process, even though it is one of the less visible and seldom contemplated components of that process. Court reporting, as we are using the term here, is not only performed in the traditional courtroom setting, but it is also applied to the reporting of other judicial and quasi-judicial proceedings including administrative hearings, depositions, hearings on criminal pleas, arraignments, sentencing, and congressional hearings such as this.

The subcommittee is very interested in investigating areas in which it may be possible to implement improvements in our judi-

cial process and make the judicial machinery more efficient and responsive to the needs of those who must use our courts. For this reason, we have undertaken this project to examine the court reporting process.

A number of people have expressed concern that the subcommittee has scheduled this hearing for the purpose of hearing testimony which will justify a predetermined course of action. I would like to take this opportunity to emphasize that this hearing has been arranged solely for the purpose of eliciting all the facts which are relevant to a proper and comprehensive consideration of the court reporting function as it now exists.

If there are any conclusions to be drawn or any course of action to be undertaken to improve this function, this will occur as a result of the testimony which will be heard today and any further information or further testimony which may be submitted for insertion into the record or received in any future hearings.

The function of reporting judicial proceedings is actually comprised of two separate operations. The first is a recording of what takes place in the courtroom, hearing, deposition, and so forth. The second is a transcription of the record which is taken.

The first operation, the recording, is always necessary. The second operation, the transcription of the record, is necessary only in certain cases, such as when the original recording is in a form which cannot be understood by nonreporters and is required by the judge, litigants, or attorneys for the purpose of preparing an appeal or using prior recorded testimony during the course of a trial.

Because these are two distinct phases of the court reporting operation, we must be careful to address them separately. We must remember when examining the current system that we can modify the recording operation without modifying the transcription operation and vice versa. However, we must carefully analyze how any proposed improvement will affect the entire system.

The objective of the recording operation should be to provide for the accurate recording of all proceedings required by law, rule, or policy at the lowest reasonable cost and without delaying or interrupting the proceeding.

The objective of the transcription operation should be to assure the production of an accurate transcript or reproduction of the record, if one is required, within the shortest feasible time limits and at the lowest reasonable cost.

Our inquiry today will focus primarily on how the court reporting function is performed in the Federal judicial system. We will attempt to determine what, if anything, may be done to improve court reporting in Federal courts, either by an improvement in the administration and management of court reporters, by the use of state-of-the-art technology, or by a combination of both.

On behalf of the committee, we are pleased that you are here. Our first panel will have three witnesses: Edward Garabedian, Assistant Director, Administrative Office of the U.S. Courts, Washington, D.C.; William Anderson, Director, General Government Division, U.S. General Accounting Office, Washington, D.C.; and Hon. Levin H. Campbell, Judge, U.S. Circuit Court, First Circuit, Boston, Mass.

I am not certain if the panel has some predetermined order, but you may proceed in any fashion you wish. We are under some time constraints and I assume you are also. Therefore, if you can, summarize your statements and proceed as you wish.

STATEMENT OF JUDGE LEVIN H. CAMPBELL, U.S. CIRCUIT COURT, FIRST CIRCUIT, BOSTON, MASS.

Judge CAMPBELL. Senator Dole, I very much appreciate the opportunity to be here. I have essentially said what I have to say in my written remarks. I will try to run through a couple of points very briefly. Hopefully, I can do this well under the 10 minutes that has been referred to.

I would like to begin by saying what you have already indicated in your remarks concerning the tremendous importance of court reporting. As judges, I think we often take for granted the fact that an accurate record is going to be kept. However, it is obvious under our system of justice that it is very important that we do have a record of what goes on in the trial court. Without such a record, we would not have the system we know today.

I think it is also important to remember, as we criticize the system today and look at where it is falling down in one respect or another, that it takes somewhere in the nature of \$20 million a year from the Government's point of view to operate. This is certainly not peanuts and I do not for a moment suggest that it is. However, neither is it one of the gigantic Federal budgetary items.

What I am trying to say is that while I think it is important to make the system more efficient and cheaper if possible, it would be pennywise and pound foolish if we were to go to a system that was of lower quality or was less effective.

Having said that, I think my next point is that I do think most of our problems are based on the fact that the court reporter employment is a bifurcated kind of job. A court reporter, for the function of taking notes and reporting, is a Government employee. He gets his salary and he or she comes to court. However, the court reporter is also a businessman when it comes to the production and selling of transcripts.

The court reporter is not a 9 to 5 Government employee who is subject to easy supervision. He or she tends to be a kind of free spirit at moments in that except for appearing in court when the judge being served is sitting, the court reporter is going about his or her business.

There is no direct supervision. No one knows from minute to minute, hour to hour, or often from day to day precisely what the reporter is working on. The reporter is entitled to do a certain amount of moonlighting. A reporter is pretty much responsible for figuring out how much time is going to be devoted to transcript preparation.

The result of this has been a great disparity in the productivity of reporters in the system. I think that this is where a good many of the problems that will be discussed by Mr. Garabedian from the Court Administrative Office and by Mr. Anderson from the GAO have arisen.

One of the worst problems we have now is responding to requests from overburdened courts that say they want more court reporters.

When I say we, I mean the committee of the Judicial Conference which I work on, along with the Administrative Office. It is very hard to know whether the problem lies in the fact that court reporters are not being fully utilized by a particular court or whether the problem is that they genuinely do need further assistance.

What are the courts doing about this? I am at somewhat of a disadvantage when it comes to making any concrete recommendations because the subcommittee that I chair has just finished meeting for several days. A good part of the time was devoted to discussing this very problem and listening to the people from the GAO.

Our parent committee of judges is going to be talking at some length about court reporters in late July, and the Judicial Conference, at its meeting in September, will doubtlessly be considering the problem at that time. It would be premature for me to speak for the judiciary on any solutions.

I can say that the matter is in the process of being considered at the moment. There will be some recommendations coming out, I am sure, from the Judicial Conference as to how to deal with some of these problems, but that process of getting the judges together from the various parts of the country has not yet completely been achieved.

The final thing I want to say is that it seems to me fairly clear there are about four ways that one can deal with the problem. One is to keep the system as it now is with the reporters as Government employees and also, to some extent, private businessmen, but I would think at a minimum perhaps tightening up some of the controls in the administrative practices.

This should cure the worst abuses, but whether it will really solve the problem, it seems to me, is an open question because it is very difficult for any centralized system in Washington to regulate reporters around the country. Judges are busy trying cases. They are not going to be following their court reporter around to find out what he is doing every day. However, there could be additional administration imposed which would improve the situation.

A second alternative would be to hire court reporters as full-time Government employees. This would put the Government in the business of transcript production. You might also have to end up putting note readers and transcribers of various types on the Federal payroll. Therefore, we would be going in the direction of developing a larger Government bureaucracy, but probably there would be better control. Different people might have different views about whether overall this would be less expensive and a more desirable route.

The third possibility is to change the statute that we now have so as to permit electronic sound recording to be used at least on an experimental basis in the district courts to see how well this system works. At the moment, we cannot even experiment with it in the district courts under the present statute. That is, you cannot produce an official transcript using electronic sound recording exclusively without the court reporter being involved at some stage.

Finally, I suppose the Congress could simply say, "We do not want any more live court reporters. We will go entirely to sound recording." This would obviously be a major step.

It seems to me those are essentially the alternatives.

Let me just conclude by saying the obvious question would be, why do we have any of these problems? Why is the system not operating perfectly?

I think one of the answers is it is a hard system to manage given the nature of the court reporter as a Government employee and a private entrepreneur.

Second, I suppose one of the benefits of the system to date has been that it has not been a managed system. That is, the court reporters have pretty well done their jobs and it has not been necessary to have a layer of bureaucracy looking over their shoulders.

The problem is that it has depended pretty much on the initiative and self-reporting of the reporters, many of whom do an excellent job, some of whom have not done what they should do.

Third, I think the slack in the judicial system has been taken up in the last 5 or 10 years. The increasing volume caseload of the courts means that more is expected of reporters. There is less leeway and less slack there for the less efficient reporters and less efficient methods of management.

I will conclude simply by saying the Judicial Conference committees that are concerned with this are deeply interested in the problem. We very much appreciate the interest of your subcommittee in this matter. We will certainly endeavor to help and cooperate in every way possible to try to do whatever might need to be done to make this a better system.

Senator DOLE. Thank you.

[The prepared statement of Judge Campbell follows:]

PREPARED STATEMENT OF JUDGE LEVIN H. CAMPBELL

Gentlemen:

I am the chairman of a court subcommittee which is directly concerned with supporting personnel. I am happy to appear on the subject of court reporting, although the thoughts brought to you today are my own and may or may not represent the formal policymaking organ of the courts, the Judicial Conference.

Court reporting is a matter the judiciary takes very seriously because the keeping of an accurate record of what occurs in a courtroom is absolutely essential in our system of justice. Without a record, the parties would be at the mercy of any arbitrary or illegal procedures that might occur. Litigants would be without access to meaningful appellate review. We are, therefore, very interested in seeing that the courts have the best and most efficient system available for recording and transcribing the record. This means keeping abreast of technological improvements and restructuring our system to whatever extent necessary to overcome deficiencies.

To understand this system, you must realize, of course, that many cases are not appealed and no transcript is, therefore, ever ordered. The reporter must nonetheless attend the proceedings and makes notes, which are thereafter available for transcription if required. For this he or she receives a federal

salary; but for transcript production and sale he or she is a private businessman.

This bifurcated nature of reporter employment has contributed to certain problems which I shall mention in a moment -- and which others at this hearing, from the Administrative Office of the United States Courts and General Accounting Office, will speak to in much greater detail. It is important that we understand and seek to resolve these problems. At the same time we should bear in mind that the present system has had virtues as well as defects. At a time when a tide of litigation has engulfed all courts, transcripts have nonetheless continued to be produced -- by and large on time. Moreover, because court reporters produce the transcripts as private entrepreneurs and deal directly with those who wish to order transcripts, the government has been spared from serving as a middleman in the business of producing and selling transcripts, and consequently has not had to hire and maintain vast numbers of notereaders and typing personnel for that purpose. Some may also argue that the financial incentives inherent in the present system encourage reporters to accomplish more than would be the case were they full-time government employees.

As is so often true, however, the very virtues of the present system give rise to its vices. Because reporters are private businessmen, some tend to be individualistic, undisciplined and even greedy.

Thus efforts to cause reporters of multi-judge courts to pool their efforts have often been less than successful. Yet virtually everyone agrees, and it is the policy of the Judicial Conference, that pooling is a "must" if the courts are to be well served. Reporters, moreover, report to no real administrative "bosses." The judges for whom they work are, in some sense, their bosses, but a judge seldom has the time to familiarize himself with the reporters' daily activities in meaningful detail. Thus when problems arise -- whether the problems are excessive transcript charges or delays in transcript production -- there is no supervisor to put his finger on what has gone wrong. As both the Administrative Office and the General Accounting Office have documented, some reporters have been regularly ignoring the Judicial Conference's established transcript rates; some reporters have also been juggling their work so as to maximize personal outside earnings while minimizing the duties they owe to the court. Thus appeals have been held up because of delays in producing transcripts, and courts have sought permission to hire additional "swing" or "contract" reporters to do work which regular reporters could and should do. I might add that determining when the engaging of additional reporters is justifiable has become a real headache for both judges and the Administrative Office. It is difficult to apply productivity yardsticks to individuals who are essentially their own bosses and who sometimes

do not divulge complete information as to their activities.

The problems just mentioned indicate some need for system-wide improvements. The subcommittee of which I am now chairman has been aware of this, and has been struggling to come up with answers. At the request of our subcommittee and our parent Committee on Court Administration, the Administrative Office has recently launched a full scale survey and evaluation of the present system. Mr. Garabedian and Mr. Jack Leeth, of the Administrative Office, who are with me today, have been devoting a large part of their time to this project. Several weeks ago, the subcommittee I chair met, heard a report from representatives of the GAO, and devoted considerable time to discussion of court reporting issues. There will be further consideration of these matters by our parent committee at its July meeting. It seems likely that the Judicial Conference may wish to consider some of these issues at its fall meeting. I cannot predict at this preliminary stage what the views of the Conference will be, and what measures it may wish to adopt, but I can say that court reporting is very much under study by the appropriate committees of the judiciary and by the Administrative Office. By the time the Judicial Conference has met in early fall, some specific policies and actions should be clarified.

As chairman of a Conference subcommittee, it would be premature for me to make recommendations

before the Conference has had a chance to review them. I can, however, make several observations. First, it is clear that there are abuses and weaknesses in the present system. Surveys by the Administrative Office confirm many of the GAO's findings in this respect and have uncovered some additional problem areas.

Second, the existence of these problems indicates a need for corrective measures. Here, I think, there is room for different views, but, at the risk of oversimplifying, let me suggest that there are, essentially, four directions which reform efforts can take:

(1) Maintain the present bifurcated system (in which reporters are salaried employees and independent businessmen), but exercise better control and better court reporter utilization. To do this it will be necessary to beef up the present administrative set-up. There is now no administrator in each court with authority to look over the reporters' shoulders. Yet the judges themselves plainly do not have the time closely to monitor reporter utilization, charges to litigants, etc. Supervisory or managerial positions would have to be created, rules tightened, and pooling arrangements required.

(2) Effect a major statutory change, providing that court reporters shall become permanent full-time government employees without the right to sell transcripts; and transfer the function of selling

transcripts to the clerk's office of the court. Whether such a move, requiring as it would government involvement in the production of transcripts and their sale, would be more economical and more efficient is a matter to be considered. As I have pointed out, the present system allows the government to stay out of the details of selling transcripts.

(3) Try out electronic recording on a voluntary pilot basis in a few of the district courts to see how well it serves the needs of those district courts. If accurate transcripts, within acceptable delivery limits, and costs competitive with the present system, can be produced from high fidelity electronic recordings, without the problems involved in the present system, the process could be expanded to other courts over a period of time. However, this cannot be done in district courts even on a small scale without a change in the present statute. Even now the Administrative Office is in the process of installing sophisticated electronic sound systems in some bankruptcy courts. These courts, however, do not directly reflect all the problems that would exist in the district court were such a system employed. Therefore a meaningful comparison cannot be achieved except by statutory change.

(4) Immediately adopt technology which would remove live reporters from all courtrooms, as GAO has suggested, without proof that the technology

can fully meet the needs of the federal courts and their litigants.

These it seems to me are the four general directions now available. Of course, all are not mutually exclusive. The courts could, for example, continue with the present live reporting system, either as outlined in (1) or (2), while experimenting with (3).

Let me mention one more matter. CAT -- computer-aided transcription -- is a recent mechanical marvel which enables a court reporter's notes to be transcribed more or less automatically. The Administrative Office, with the aid of the Judicial Center, has been looking carefully into this. Over 50 federal reporters now use CAT. It appears that CAT can assist the more competent reporters become more productive. On the other hand, it requires sophisticated handling and is not a panacea. If it is decided to retain live reporters, CAT may play a useful role in speeding production but will not, as matters presently stand, so revolutionize court reporting as to eliminate the need for choosing which of the four above-stated paths to follow.

I thank you for the opportunity to appear before you, and assure you, on behalf of the courts, that we wish to cooperate with this committee in every way possible to improve the efficiency and effectiveness of court reporting in the federal courts.

Senatory DOLE. Mr. Anderson, would you like to summarize your statement in about 5 minutes?

STATEMENT OF WILLIAM J. ANDERSON, DIRECTOR, GENERAL GOVERNMENT DIVISION, U.S. GENERAL ACCOUNTING OFFICE, WASHINGTON, D.C.

Mr. ANDERSON. Thank you, Mr. Chairman.

I have an abbreviated statement that I would like to read.

Although the Federal judiciary is satisfied that court proceedings are being recorded properly and transcripts are being prepared accurately by its court reporters, we found that many court reporters were engaged in questionable activities. This is based on an examination of seven district courts selected to give geographical coverage as well as a variety of court workloads.

Specifically, we found that some, and I emphasize some, reporters were engaging in a general pattern of overcharging litigants for transcripts, operating private businesses out of space provided by Federal courts, using substitutes rather than personally providing the services for which they were hired, receiving about the same salary for significantly varying workloads, and not serving all the recording needs of the district courts.

While these problems could be solved by improved management of court reporter activities, we believe consideration should be given to a proven alternative, the electronic recording of court proceedings. Such a change would not only result in substantial savings but would also provide a better record of courtroom proceedings.

COURT REPORTERS ARE NOT ADEQUATELY MANAGED

Concerning the management problems, the Court Reporters Act requires each district court to supervise the activities of its reporters, including their dealings with parties requesting transcripts. However, reporters are not being adequately supervised and judicial policies governing court reporter activities are not being followed.

The typical practice of district courts is to assign a reporter to each active judge and to rely on the judge to supervise the reporter's activities. This practice enables each judge to have his or her court proceedings recorded, but does not assure that the reporter's other activities are properly supervised and monitored. As a result, we identified the following problems in the seven districts we reviewed.

OVERCHARGING OF LITIGANTS

We found that 42 of the 51 court reporters whose records we examined were overcharging litigants for transcripts in violation of Judicial Conference policies. For example, 28 reporters in six districts charged litigants per page rates exceeding approved maximums. Twenty reporters in four districts charged litigants unauthorized postage, binding, and delivery fees up to \$100 per transcript.

PRIVATE BUSINESS ACTIVITIES

Reporters in five of the seven districts were conducting private reporting business activities in Federal courthouses, thereby obtaining rent-free space. For example, one reporter had an office manager and four other full-time office personnel who supported his private reporting activities, using 1,150 square feet of courthouse space while the current standard is only 250 square feet.

USE OF SUBSTITUTE REPORTERS

Many reporters are hiring substitutes to do their official court work and profiting thereby because they pay substitutes less than their Federal salaries and/or are free to engage in more lucrative private reporting activities not related to their official duties.

WORKLOAD AND PAY VARIES

Workload and pay rates vary considerably because of real disparities in the workload of reporters across the system. On an annual basis, the lowest number of recording hours we found was 173 for one court reporter up to one who had 10 times that, or 1,735, all obtaining the same basic annual pay.

USE OF CONTRACT REPORTERS

Contract reporters are hired unnecessarily because of the failure to pool reporters in the courts. Rather, they are essentially assigned individually to judges. You will have some reporters who are extremely busy on a continuing basis and others who are not. Rather than using those who are not occupied to fulfill needs such as those of a senior judge, a magistrate, or as a substitute for a court reporter who cannot handle the assigned work, they will hire contractor or per diem reporters. Therefore, we identified unnecessary costs that could have been avoided.

For example, in one district, contract reporters were hired for 332 days of work even though a court reporter was available each day and could have filled in and thus the court could have avoided the payment of these unnecessary expenses.

Let me sum up this part of the statement by saying we believe there is room for considerable improvement in the management of court reporter activities.

ELECTRONIC RECORDING

Our detailed statement does speak to the apparent opportunity with respect to the use of electronic recording techniques. We do point out that it is in use among numerous systems across this country and elsewhere in the world: Australia, Canada, and 16 States, the State of Maryland being one. The State of Alaska General Jurisdiction Courts have used it for a number of years and the judges there that we spoke to are very happy with the system.

We do not advocate a wholesale move in that direction. We do believe it should be gradual. We do agree very much with some of Judge Campbell's comments on the most logical direction at this point in time.

That concludes my statement, sir.

[The prepared statement of Mr. Anderson follows:]

PREPARED STATEMENT OF WILLIAM J. ANDERSON

Mr. Chairman and Members of the Subcommittee we appreciate the opportunity to testify before you today on our review of the Federal Judiciary's court reporting system. Although we have not finalized our report, we have completed the fieldwork which gives us the opportunity to discuss the problems we found and the actions needed to correct them.

Although the Federal Judiciary is satisfied that court proceedings are being recorded properly and transcripts are being prepared accurately by its court reporters, the activities of court reporters are being carried out in a questionable fashion in many cases. We noted that Federal court reporters are

- (1) engaging in a general pattern of overcharging litigants for transcripts;
- (2) operating private businesses out of space provided by Federal courts;
- (3) using substitutes rather than personally providing the services for which they were hired; and
- (4) receiving about the same salary for significantly varying workloads and are not required to serve all the recording needs of the district courts.

While these problems could be solved by improved management of court reporter activities, we believe consideration should be given to a proven alternative--electronic recording. Such a change would not only result in substantial savings, but would also provide a better record of courtroom proceedings.

The Court Reporters Act requires that a court reporter attend each court session, record the testimony, and certify the official court records. In 1980 there were 575 Federal court reporters who received annual salaries and benefits totaling about \$16 million. These reporters have unique employment status. Although they receive Federal health and life insurance and retirement credits, they are not considered full-time Federal employees and are not entitled to annual and sick leave benefits. The Court Reporters Act provides official reporters

a salary ^{1/} to record official court proceedings and allows them to sell and retain the fees collected from selling the transcripts they prepare. The preparation and sale of official court transcripts are viewed as private business activities. Also, court reporters are usually allowed to engage in other reporting activities unrelated to their official transcript work as long as they are not needed to record official court proceedings.

To develop our findings and conclusions, we discussed court reporting procedures with judges, attorneys, court reporters and others; reviewed the activities of 51 of the 111 reporters in seven Federal district courts; reviewed Administrative Office of the U.S. Courts audit reports and statistical information which covered activities of court reporters; and evaluated the feasibility and use of electronic recording systems in Federal and non-Federal court settings.

Our findings fall into two categories:

- management of reporters' official activities and oversight of private reporting activities; and
- methods used to record court proceedings.

COURT REPORTERS ARE NOT ADEQUATELY MANAGED

The Court Reporters Act requires each district court to supervise the activities of its reporters and Judicial Conference policy states that the reporters are to serve the reporting needs of the entire court. However, these provisions and various Judicial policies and guidelines governing court reporters' activities are not being followed.

The typical practice of district courts is to assign a reporter to each active judge and rely on the judge to supervise the reporter's activities. This practice enables each judge to have his/her court proceedings recorded but does not assure that

^{1/}Court reporters receive salaries ranging from \$28,741 to \$31,615 depending on longevity and proficiency, for their attendance in court or in chambers for the purpose of taking notes of proceedings.

the reporter's other activities are properly supervised and monitored. Most judges simply do not have the time to keep track of their reporters' activities and, in fact, probably should not take the time to do so. As a result, court reporters manage themselves, often for their own best interest, to the detriment of litigants, the courts and the public. Specifically, we found that some court reporters have

- devised ways to overcharge litigants for transcripts, including violations of maximum transcript rates set by the Judicial Conference;
- engaged in activities which conflicted with Federal employment, including operating businesses out of Federal courthouses and profiting by using substitutes to do their official court work; and
- been poorly utilized, resulting in transcript backlogs, inequitable compensation and contracting for reporting services when official reporters were available.

Litigants Were Charged Excessive and Unauthorized Fees for Transcripts

In accordance with the Court Reporters Act, the Judicial Conference has established maximum per page rates which a reporter can charge litigants for transcripts. Reporters are required to comply with these rates, and charges of any other kind or which exceed these rates are unauthorized. In addition, the Judicial Conference has set forth transcript format standards which reporters must comply with in preparing transcripts. This format is important to assure that litigants get full pages for the rates paid.

Contrary to specific provisions of the Court Reporters Act, none of the seven district courts we reviewed supervised or monitored the rates their reporters charged for transcripts. This lack of supervision and monitoring has enabled reporters to charge litigants excessive and unauthorized fees for transcripts.

Of the 51 court reporters we selected in the seven district courts, 42 had engaged in some form of overcharging. Specifically,

- twenty-eight reporters in six districts charged litigants per page rates that exceeded the maximum approved by the Judicial Conference;

--sixteen reporters in three districts, in addition to per page fees, charged litigants for payments the reporters had made to substitute reporters who had helped them;

--twenty reporters in four districts charged litigants for unauthorized postage, binding, and delivery fees up to \$100 per transcript; and

--fifteen reporters in five districts charged litigants for transcript pages which had formats that did not comply with Judicial Conference policy, resulting in "short pages."

The Court Reporters Act also requires reporters to provide (1) a transcript to any Federal judge who requests one, and (2) a copy of all transcripts to the clerk of the court whenever a transcript is prepared. The Administrative Office's General Counsel has taken the position that reporters' salaries compensate them for these transcript copies and that reporters should not charge litigants for them. Contrary to this position, we found that in five of the seven districts visited 23 reporters had charged litigants for copies of transcripts provided to a judge or clerk of the court.

For some time the Judiciary has been aware of the overcharging of litigants, but has not acted to fully correct the situation. For example, the Administrative Office reported that, in 51 district courts it evaluated from 1976 through early 1981, overcharging for transcripts occurred.

We interviewed 30 of 86 active judges in the seven districts visited and found that none had actively supervised or arranged for the supervision of reporters or knew how the reporters dealt with and charged litigants for transcripts. All 30 judges believed their reporters had been treating litigants fairly because litigants rarely, if ever, complained about the rates charged for transcripts.

Court Reporters Engaged in
Activities Which Conflicted
With Federal Employment

The lack of supervision and monitoring of reporters has enabled them to

--subsidize their private reporting activities by operating businesses in Federal courthouses; and

--profit at the Government's expense by hiring substitutes to do their work while they did other things, including engaging in private business activities.

Businesses in Federal courthouses

Reporters in five of the seven districts reviewed were conducting private reporting business activities in Federal courthouses. The Federal Government is subsidizing these businesses by providing reporters rent-free space. For example:

--In one district, all nine of the reporters whose activities we reviewed were conducting private business activities from the courthouse. One reporter had located in the courthouse an office manager and six other full-time office personnel who supported his private reporting activities. This reporter had 700 square feet of courthouse space (current standard is 250). Another reporter operated a private reporting firm that had five employees and occupied 1,150 square feet of Federal courthouse space.

--In another district 31 court reporters are incorporated and operate an extensive private reporting business from Federal courthouse space. In addition to these reporters, this firm has 38 employees, all of whom occupied courthouse space. This business had gross income of about \$901,000 in 1979 and \$722,000 in 1980 from its private business. This firm had no other location from which it conducted business.

--In the three other district courts, reporters were also conducting private business activities in Federal courthouses.

Use of Substitutes

Many reporters are profiting by hiring substitutes to do their official work. Reporters profit because (1) they pay substitutes less than their Federal salaries and/or (2) they are free to engage in private reporting activities not related to their official duties. The use of substitutes in this fashion is inconsistent with (1) reporters' Federal employment status because they continue to receive full salary and other benefits, including retirement credits, without providing a personal service to the court, and (2) certain requirements of the Court Reporters Act.

Recognizing this problem, the Judicial Conference in March 1980 adopted a policy discouraging the use of substitute court reporters and limiting their use to assisting in meeting recording and transcription deadlines, absences due to illness, vacations, and other similar circumstances beyond the control of court reporters. However, many reporters were still using substitutes at the time of our fieldwork and only one of the seven district courts reviewed had established a policy limiting the use of substitutes. This district, however, was not following its policy. Two examples of the extensive use of substitutes are:

--A reporter in one district, who operated a private reporting firm and spends little time in the courtroom, used substitutes 95 percent of the time and personally recorded only 31 of 601 hours of proceedings recorded during 1979. In 1980 the reporter used substitutes 86 percent of the time and personally recorded only 82 of the 600 hours recorded.

--In another district, a reporter had not recorded any proceedings for at least 5 years. This reporter managed a private reporting firm and used his employees to record the proceedings for which he was responsible. He received a Federal salary plus benefits.

Federal Court Reporters Poorly Utilized

Reporters are usually expected to serve the recording needs of the judge they are assigned to. This has created a wide variance in workloads among reporters because judges have varying workloads. As a result, many court reporters were not fully utilized. However, these under-utilized court reporters were not being used to fulfill other court reporting needs and district courts were contracting for reporters to serve the needs of senior and visiting judges and magistrates even though Federal court reporters were available.

Workload imbalance causes problems

The recording and transcript workloads of reporters varied widely. Some reporters had very light workloads while others were overburdened and sizeable backlogs had developed in preparing requested transcripts. Also, compensation on an hourly basis among reporters was inequitable because regardless of the

number of hours reporters actually spent recording proceedings, they all received about the same annual salary.

Nationwide, the time court reporters spent recording official court proceedings during 1980, exclusive of the Alaska Federal district court, ranged from 173 hours to 1,735 hours. On a weekly basis the range was from 3.5 hours to 34.7 hours. Furthermore, the pages of transcript prepared by reporters also varied substantially nationwide, ranging from 1,749 to 45,231 pages.

These varying workloads created backlogs in the preparation of requested transcripts for some reporters. For example, in one district, 8 of the 18 reporters had transcript backlogs averaging over 5,000 pages. Although these 8 were behind weeks, and even months, in preparing requested transcripts, 10 other reporters in the district had no backlogs.

These variances in workloads also produced substantial inequities in reporters' compensation because they were paid about the same salaries regardless of the number of hours they recorded court proceedings. Accordingly, reporters' pay per recording hour varied substantially. For example, the court reporter with the lowest number of hours of recording time (173 hours) was paid at an hourly rate of about \$160 whereas the court reporter with the highest recording time (1,735 hours) was paid at an hourly rate of about \$15. This includes only salary costs.

Contract reporters were hired even though official reporters were available

In 1980 reporters recorded court proceedings an average of 162 days out of a normal work year of about 240 days. On the average they recorded about 15 hours per week for judges. In four of the seven districts we reviewed, we noted that in 1980 most of the costs (\$107,540) incurred to hire contract reporters to serve the needs of senior judges and magistrates could have been avoided because official reporters were available but not used.

For example,

- in one district contract reporters were hired for 63 days of work although court reporters were available for duty each day;
- in a second district, contract reporters were hired for 332 days of work even though a court reporter was available each day;
- in a third district court reporters were available for 53 of 54 days that contract reporters were used; and
- in a fourth district, court reporters were available for 256 of 476 days that contract reporters were used.

Although the numerous problems that have been discussed can be solved by improved management of court reporters, we believe serious consideration should be given to another proven alternative--electronic recording of court proceedings.

ELECTRONIC RECORDING SYSTEMS SHOULD
BE USED AS THE JUDICIARY'S PRIMARY
COURT REPORTING METHOD

Electronic recording systems are now available and in use which could significantly--we estimate \$13.6 million annually--reduce the Government's costs of recording Federal judicial proceedings and, at the same time, potentially reduce the costs of transcripts borne by litigants. Furthermore, electronic recording can provide a better record of court proceedings and much greater management flexibility and control. Highly reliable electronic recording equipment which produces high quality recordings and contains features to safeguard against operator and procedural errors is available. Accordingly, courts that have properly implemented electronic recording systems obtain accurate and timely transcripts and realize several advantages over using manual stenographic methods.

In evaluating the cost-effectiveness and benefits of electronic recording and its feasibility for use in Federal district courts, we visited four courts that used electronic systems to record trial proceedings similar to Federal district court pro-

ceedings. Further, we interviewed officials of five private reporting firms that use electronic recording to record court proceedings and officials of four manufacturers of electronic recording equipment.

Electronic Recording Is Being Used
Effectively In a Wide Variety
Of Court Settings

Electronic recording systems are being used effectively in court settings similar to Federal district courts. The State Court of Alaska, the State Court of Connecticut, the Orange County Court in Florida, and the Federal and Provincial courts in Montreal, Canada, as well as numerous other courts, are using electronic recording systems to record trial court proceedings. These proceedings include a full range of participants, including the judge, attorneys, witnesses and jurors and thus are similar to Federal district court proceedings.

In total, we visited or contacted 16 courts which used electronic recording to record trial court proceedings. Officials in these courts told us that they have experienced no significant problems recording proceedings or having transcripts prepared from tapes.

Electronic recording systems are also used by the United States Supreme Court and the United States Tax Court. Officials of these courts told us that they were satisfied with the recordings and transcripts from the use of electronic recording systems. In fact, the Tax Court, which is a trial court, specifies in its contracts for recording services that only electronic recording can be used.

Advantages of Electronic
Recording Systems

We estimate that by using electronic recording systems, the Federal Judiciary could reduce its costs of recording proceedings from about \$18.4 million to \$4.8 million a year--a savings of about \$13.6 million annually. (See attachment I.) This estimated savings is based on exclusive usage of electronic

recording systems and considers the annual operating costs of the new system such as personnel, office and tape storage space, equipment depreciation and maintenance, facility modification amortization, and recording supplies. We estimate that the initial outlay costs would total about \$14.3 million. (See attachment II.)

Another advantage is that litigants would have opportunities to reduce their transcript costs by purchasing tapes from the court and having transcripts prepared on the open market where competition could be expected to keep costs at the lowest possible level.

Litigants can also keep costs down by using the tapes and related log notes taken by persons monitoring the proceedings, instead of transcripts, to review what transpired in the courtroom. Tapes and log notes can be provided to litigants at a very low cost--under \$10 for an hour's proceeding versus \$80 to \$140 for written transcripts.

Court officials who have had experience with both electronic and stenographic methods contend that records produced electronically are more accurate than records produced stenographically because a tape recorder records the actual words spoken without interpretation or editing, capturing not only what was said but how it was said. In addition to accurately recording proceedings, accurate transcripts of proceedings can readily be prepared from the tape. Court officials in all 16 courts we visited or contacted, which use electronic recording systems, told us that they are satisfied with the accuracy of the transcripts.

Timely transcripts can be prepared under electronic recording systems. Even same day transcript service can be successfully provided when appropriate procedures and numbers of transcribers are used. For example, although not routinely done daily, transcript service has been successfully provided in Alaska, Australia, and Maryland.

Electronic recording systems provide other advantages over stenographic court reporting methods. For example, the taped record eliminates problems which can result from two inherent weaknesses in stenographic methods: (1) the necessity to translate a court reporter's notes into an understandable form, and (2) the inability to verify transcript accuracy. The taped records can be reviewed and understood instantly without translation or transcription and any transcripts prepared can be verified against the taped record. A court reporter's notes, however, cannot be readily understood and cannot provide an objective basis to verify transcript accuracy.

Electronic Recording Systems
Must Be Properly Designed And
Implemented To Assure Success

Electronic recording systems must be properly designed, implemented, and managed before a court's reporting needs can be properly met and the benefits and savings inherent in electronic recording systems can be realized. Officials in courts using electronic recording systems told us that proper equipment, properly trained personnel, and appropriate courtroom procedures must be used to avoid problems with the accuracy and timeliness of transcripts.

Opponents of electronic recording--which include some judges and attorneys, but primarily court reporters and their associations--often refer to problems in transcribing court proceedings as their basis for saying that electronic recording systems are not feasible, when in fact, the fault lies in improper equipment, improperly trained personnel, or in courtroom procedures themselves.

These individuals argue that the electronic recording machines cannot (1) identify speakers, (2) record overlapping or simultaneous testimony, (3) indicate non-verbal communications, or (4) capture interjections made while previous testimony is being played back. They assert that these shortcomings result in

inadequate or inaccurate transcripts. In addition, they contend that electronic recording systems erroneously record privileged communications, are unreliable, lack portability, and disrupt courtroom decorum.

We evaluated these arguments by observing "state-of-the-art" electronic recording systems in operation, asking users of electronic recording systems if they experienced these problems, and reviewing studies prepared on various systems. We concluded that these arguments have little merit. The latest electronic recording machines have features designed to eliminate most of these problems and by using proper procedures the remaining problems can be readily overcome. A discussion of each of the arguments and how they can be overcome follows.

1. Speaker identification. Opponents of electronic recording claim that a court reporter can see who is speaking, even the "roving advocate", and identify the person for the record. Machines cannot do this.

Users of electronic recording systems told us that this problem is avoided by using individuals to monitor the recording of proceedings. These persons maintain complete log notes in which speakers are identified and indexed to the tape via index numbers displayed on the machine. The National Center for State Courts stresses this procedure as an important element of an electronic recording system.

2. Overlapping or simultaneous testimony. Opponents of electronic recording systems contend that the systems cannot properly record and separate overlapping or simultaneous testimony, i.e., two speakers talking at once, and that court reporters can handle this situation better. They point out that court reporters can stop the proceedings when this happens, whereas a machine cannot. Also, opponents claim that in such situations court reporters, if they believe it inappropriate to stop the proceedings, use their judgment and record only the

testimony they believe is most important. They further argue that in these situations the jury can listen to only one speaker at a time and therefore the court reporter's version is a better reflection of what the jury heard.

We asked users of electronic recording systems whether overlapping testimony causes problems. They responded that it was not a problem and several court officials explained why. First, most modern electronic recording machines used in courts are multi-track recorders which have the capability of separating overlapping testimony. In a typical system for electronic recording of courtroom proceedings there is a channel on the tape for each microphone used by a principal participant. When simultaneous testimony occurs, each speaker's voice is captured on a different channel. Anyone needing to review or transcribe the proceedings can listen to each channel independently. We listened to tapes of actual courtroom testimony in which overlapping testimony was recorded and verified that the voices were separable and distinguishable. Court officials also told us that simultaneous testimony can also be controlled through proper courtroom procedures and that the ability to say "stop" is not unique to court reporters. Judges and electronic equipment operators can also do this.

3. Non-verbal communications. Opponents of electronic recording contend that machines cannot record non-verbal communications such as nods, shrugs, pointing fingers, and that unless the court or counsel identifies (e.g., "let the record show. . .") such non-verbal testimony, the transcript prepared from electronic recording systems will not mention such non-verbal activity. Court reporters, on the other hand, can watch the proceedings, describe these in their notes, and include them in the transcript.

Officials of courts using electronic recording told us that non-verbal communications are not a problem and are handled in two ways. First, by using proper courtroom procedures judges,

attorneys, or recording monitors can instruct speakers to present all testimony verbally, and second, recording monitors can record any non-verbal communications in their log notes and include such communication in transcripts.

4. Playback of previous testimony. At times during court proceedings it is necessary to play back previous testimony. To do this, court reporters have to search through their notes and electronic recording machine operators have to rewind the tape to find the correct testimony. Advocates of using court reporters claim that reporters can do this faster and, if any testimony is given during this read-back process, they are able to move quickly back to taking notes again.

We found that means are available to deal with this situation when electronic recording systems are used. Recording monitors' detailed log notes, which index speakers to locations on the tape and which paraphrase testimony can assist monitors to find the previous testimony rapidly. In addition, one machine has a feature which enables the operator to enter the index number of previous testimony on a keyboard, then push a button which automatically rewinds the tape to the correct position within seconds. This machine can also fast-forward very rapidly to the point of the tape where the last testimony ended so recording can be resumed with little delay. Another machine has the capability of recording and playing back simultaneously. This machine has two independent cassette systems; one can record while the other plays back previous testimony.

5. Privileged communications. Opponents of electronic recording argue that secret and privileged communications between counsel and client or discussions between the court and counsel "out of hearing of the jury" may be inadvertently recorded and played back or transcribed.

Attorneys and judges we talked to said that recording privileged communications is avoided by proper procedures and

equipment. With experience, attorneys learn to cover the microphone or move away from it when speaking privately with a client. The microphones for judges usually have a button to deaden the microphone when required for bench conferences.

6. Reliability. Opponents of electronic equipment argue that court reporters are more reliable than machines. A court reporter may be tardy, ill, or dead but at least his/her sufferings are obvious. Machines may be operating defectively without detection and the record may be "lost".

Users of electronic recording told us that the latest recording machines are very reliable and contain safeguard features which provide warnings if a malfunction should occur. In addition, recording monitors usually wear headphones and listen directly to the tape rather than the speakers. In this way, testimony not being recorded is detected immediately by the monitor who can stop the proceedings and take corrective action.

7. Portability. Opponents of electronic recording contend that tape recorders are bulky, if not immovable, and court reporters can join the court and counsel for conferences in the judges' chambers.

Users of electronic recording told us that various procedures may be used in these situations. Conferences in judges' chambers can be recorded electronically by courtroom recorders by merely bringing a microphone with a long cable into the chambers if they are adjacent to the courtroom. Also, recorders could be located in judges' chambers for these purposes. And, courtroom cassette recorders can be carried easily into chambers or other non-courtroom locations.

8. Disruption of courtroom decorum. Advocates of using court reporters claim that the sober atmosphere of the courtroom will be upset by turning it into a recording studio with the clerk acting as an audio engineer. Distrustful of "new-fangled devices", counsel will be distracted in the presentation of his/

her case. They said court participants will have to learn microphone orientation.

Users of electronic recording told us that counsel get accustomed to using microphones through experience and do not consider electronic recording disruptive. A judge told us that jurors are sometimes more fascinated with a court reporter's note-taking activities than with the testimony. Court officials agreed that proper procedures are necessary to insure the record is properly recorded, but that this does not disrupt court proceedings.

SUMMARY

In summary, many court reporters are taking advantage of the present system for recording and transcribing Federal district court proceedings. The system is costly to both the courts and litigants and is permeated with inefficiency and inequities. Accordingly, we believe another method--electronic recording--should be established in lieu of court reporters as the predominate method of recording district court proceedings. The benefits of installing electronic systems are threefold:

--the system has certain inherent benefits itself in terms of accuracy and timeliness of recording and transcribing court proceedings;

--lower costs of about \$13.6 million annually once electronic systems are fully installed; and

--elimination of the questionable activities that are presently occurring among Federal court reporters.

Before the Federal Judiciary can use electronic recording systems exclusively, the Congress must amend the Court Reporters Act to permit Federal district court proceedings to be recorded by using electronic recording equipment without the presence of a court reporter.

However, until the act is amended and court reporters are phased out, the Judiciary needs to better manage its court reporters and eliminate the problems we have discussed. We believe

an important step to accomplish this would be to establish a central management authority in each district court--probably in the office of the clerk of the court--to supervise and monitor the district's reporters. This management authority--which should be independent of court reporters--should assure that reporters (1) charge litigants appropriate fees for transcripts, (2) are effectively and efficiently used to meet all the district's recording needs, and (3) are not engaging in private reporting activities which conflict with their status as Federal employees.

This concludes my prepared statement. We hope this information and the information in our final report will assist the Subcommittee in its efforts to improve court operations. We would be pleased to respond to any questions.

ATTACHMENT I

COMPARATIVE COST ANALYSIS COURT REPORTERS VERSUS ELECTRONIC RECORDING SYSTEMS

<u>CURRENT ANNUAL OPERATING COSTS</u>	<u>COST</u>
Court reporters' salaries and benefits	\$15,973,774
Contract court reporters	619,285
Office space provided court reporters	1,419,371
Travel	<u>332,775</u>
Total cost of recording proceedings	<u>18,345,205</u>

ESTIMATED ANNUAL OPERATING COSTS FOR ELECTRONIC RECORDING SYSTEMS

Personnel	\$ 836,541 a/
Office space	54,498
Equipment depreciation	1,499,571
Equipment maintenance	340,250
Recording supplies	1,073,598
Tape storage space	229,859
Facilities modification amortization	<u>760,752</u>
Total estimated annual operating costs	<u>4,795,069</u>
Annual savings by converting to electronic recording	<u>\$13,550,136</u>

a/The personnel costs are based on the need for 62 people at an annual salary rate of \$12,266 (JS-5) plus a 10 percent allowance for benefits. These administrative clerks will be responsible for insuring the availability of recording equipment and supplies, maintaining custody of tapes that contain official court proceedings, and arranging for court requested transcription. The responsibility for monitoring the use of electronic recording equipment in the courtroom will be performed by the existing courtroom deputies.

ATTACHMENT II

ESTIMATED INITIAL OUTLAY
COSTS FOR ELECTRONIC RECORDING
SYSTEMS FOR FEDERAL
DISTRICT COURTS

<u>ITEM</u>	<u>COST</u>
Courtroom recording equipment	\$ 5,453,000
Spare recording systems	1,358,000
Tape duplicators	3,686,000
Facilities acoustical modification	<u>3,803,760</u>
Total outlay	<u>\$14,300,760</u>

Senator DOLE. Thank you.

I will have questions, but I wanted to hear the highlights of the statements first.

Mr. Garabedian?

STATEMENT OF EDWARD V. GARABEDIAN, ASSISTANT DIRECTOR, ADMINISTRATIVE OFFICE OF THE U.S. COURTS, WASHINGTON, D.C.

Mr. GARABEDIAN. Thank you, sir.

I also have submitted a prepared statement. I believe Judge Campbell and Mr. Anderson have outlined the problem exceptionally well. However, I would like to make a few comments.

Basically, we have three courts that we have to provide reporting services to: district court judges who are subject to section 753 of title 28; the magistrates who as subordinate judicial officers in the district courts are governed by a different statute, section 636 of title 28; and now the newly constituted bankruptcy courts which are governed by an even different statute, section 773 of title 28.

The statutes governing magistrates and bankruptcy courts do provide some degree of flexibility in that electronic sound recording of proceedings is specifically authorized. As Judge Campbell indicated, with respect to the district court judges we have no options. The statute clearly requires that live reporters report the proceedings and produce transcripts at the request of the parties.

The bifurcated system referred to is one of the reasons we have some problems. Reporters spend, on the average, 15 hours a week in court. However, there are reporters who spend substantially greater amounts of time in court and others who do not.

I believe the GAO statement is quite accurate. There are abuses. There is need for improvement in management. With regard to the utilization of court reporters, the Judicial Conference has addressed that subject. It has encouraged the pooling of reporters at least in those multijudge courts. Efforts are being made. In Los Angeles and San Francisco, there have been general orders entered into by the courts in an effort to pool their reporters.

OVERCHARGES TO LITIGANTS

There have been abuses of the fee schedule. Through a management review function performed by the Administrative Office, we have noted a number of situations where reporters were overcharging litigants. When we discover these overcharges, we bring them to the attention of the chief judge of the court who has the basic supervisory responsibility. We also bring them to the attention of the respective judicial councils of the circuits.

Senator DOLE. What does he do with them?

Mr. GARABEDIAN. Normally, the chief judge is cooperative and will insist that restitution be made. We like to think that that is exactly what comes about as a result of our bringing these overcharges to their attention. There are situations where we do not become aware of the overcharges until several years pass.

As I indicated, the Administrative Office does perform a management review function. It is a policing operation. We actually go into a court reporter's office, examine his records and check his billings.

We reviewed virtually every court reporter's office over the past 5 years. One of the things the Director of the Administrative Office has asked me to do is to change the cycle for these examinations to 18 months. We would like to visit these offices more frequently so that if there are overcharges, we can do something about it on a timely basis.

The court reporter problem has come to a head, so to speak, as a result of recent legislation. Magistrates' jurisdiction was increased. As a consequence, they need court reporters. The bankruptcy courts were reconstituted. They need court reporters.

As to the utilization of reporters, we are trying to take the reporters who have been assigned to judges and say, "OK, we would like you to serve the magistrate." Court reporters are reluctant to serve magistrates because it does not generate any additional income for them. They like to use their free time for producing transcripts, which they can in turn sell to what we consider a captive clientele. The litigants do not have anywhere to go to buy their transcript except through a court reporter. Although he is a private entrepreneur, he has a market that no one can take away from him. I think that may be part of the problem.

TRANSCRIPT BACKLOG

We have problems with backlog. Here again, a reporter is required to produce a transcript at the request of the parties. If he does not produce it on time, he does not lose any money. He could produce it a month late or 2 months late. He is still going to get the fees for those transcripts.

The courts of appeals are constantly after the district court judges to get their court reporters to produce their transcripts on a timely basis for records on appeal.

I am not trying to paint a picture that all court reporters are not performing at an acceptable level of competence. We have a lot of good reporters out there. However, I think even the court reporters' association will agree there are some bad apples out there. The thing we have to do is identify who these bad apples are.

We have had several situations which were rather critical. Here in the metropolitan area, we had a reporter with 52 cases up on appeal in which he did not have the transcripts produced on time. As a result of an order entered by the judge, the man was incarcerated, at least until such time as he produced a schedule as to when those transcripts would be prepared.

We are well aware of the problems we have. The Judicial Conference has addressed many of these problems. The Administrative Office, in turn, is trying to police the court reporters' activities and bring to the attention of the respective judicial councils what we find in the way of abuses.

We welcome GAO's report. It brings to our attention some of the problems we feel have to be addressed.

Thank you, sir.

Senator DOLE. Thank you.

[The prepared statement and two letters submitted by Mr. Garabedian follow:]

PREPARED STATEMENT OF EDWARD V. GARABEDIAN

Mr. Chairman and Members of the Committee, I sincerely appreciate this opportunity to appear before you as a representative of the Administrative Office of the United States Courts to review some of the problems we have in the Federal courts as it relates to court reporting services. The Director of the Administrative Office recently designated me as the officer responsible for coordinating all activities relating to court reporting services in the United States district courts, the bankruptcy courts, and proceedings before United States magistrates. The problems I am referring to are not new, they have been with us for many years. Mr. Henry P. Chandler, who was the first Director of the Administrative Office, in a memorandum to the Chief Justice and to the Members of the Judicial Conference of Senior Circuit Judges in 1940 stated "There is no doubt that all is not well in reference to court reporting in the Federal courts; there is room and need for improvement." The current situation is better than it was but there is still need for improvement.

Court Reporting in the District Courts

The court reporting system in the district courts was established by the Congress in 1944--37 years ago. At that time, there were fewer than 200 district judgeships and we did not have magistrates or bankruptcy courts as they are constituted today. We have also experienced a tremendous increase in the volume and complexity of litigation before the courts. The legislation enacted in 1944 may have been quite adequate at that time but conditions have changed. There have been changes in technology and we must now focus our attention to what will best serve the courts in the 1980's and 1990's. In 1944, stenotype was relatively new. Most reporters at that time were "pen writers"---Gregg or Pittman. We did not have highly sophisticated computers, word processing machines,

photocopy equipment, or the audio/visual aides that are available today. There may be viable alternatives to shorthand or stenotype reporting but under present law, as it relates to the district courts, we do not have any options. The statute (28 U.S.C. 753) clearly provides that a reporter appointed by the court shall make a verbatim record of the proceedings and shall transcribe and certify the record at the request of a party. With the exception of arraignments, pleas, and sentences in criminal cases, the law precludes the use of electronic sound recording equipment. Based on a ruling of the Comptroller General of the United States, the statute also precludes the use of appropriated funds to finance or subsidize a computer aided transcription (CAT) program.

Court reporting services in the district courts are being provided by salaried reporters who are appointed in such numbers as may be determined by the Judicial Conference of the United States augmented to the extent necessary by contractual services when the judicial council of the circuit determines that the number of official court reporters authorized for a court is insufficient to meet the needs of the court including any services required by senior judges and/or magistrates.

Recording of Proceedings Before Magistrates

The statutory provisions relating to the recording of proceedings before magistrates (28 U.S.C. 636(c)(7)) are more flexible and do provide some options, including the use of electronic sound recording equipment. However, it is left to the discretion of the magistrate whether the record shall be made by electronic sound recording means, by a court reporter appointed or employed by the court to take a verbatim record by shorthand or by mechanical means, or by an employee of the court designated by the court to take such a verbatim record. Notwithstanding the magistrate's determination, the proceedings shall be taken down by a court reporter if any

party so requests. Therefore, the magistrate's discretion to utilize electronic recording equipment is limited and subject to the desires of the parties involved in the proceeding. Since the magistrates are subordinate judicial officers of the district courts and since court reporters appointed by the courts are required to be in attendance at all proceedings as may be required by rule or order of court, to the extent possible, the official reporters are expected to serve the magistrates. In this regard, the Judicial Conference of the United States, as a matter of policy, has asked the courts to consider pooling their resources and rotating the assignment of reporters in an effort to equalize their workload and to minimize the need for contractual services for senior judges, visiting judges, magistrates, and land commissioners.

Recording of Proceedings in Bankruptcy Courts

With respect to the bankruptcy courts, they are subject to the provisions of 28 U.S.C. 773 which provides that the record of proceedings in open court may be taken by electronic sound recording means, by a court reporter appointed or employed by such bankruptcy court, or by a designated employee of such court. The statute governing reporting services in the bankruptcy courts also provides a much greater degree of flexibility in that there is specific provision for the use of electronic sound recording equipment. At the present time, electronic recording equipment is being used for all first meetings of creditors. However, proceedings before the bankruptcy judges are being recorded and transcribed by live reporters serving under contracts entered into on a competitive basis. The Appropriations Committees of the Congress have authorized the appointment of court reporters for multi-judge bankruptcy courts but in doing so mandated that such appointments are to be made only if it can be demonstrated that the reporters will be fully utilized and cost effective. The Judicial Conference of the United States has delegated to the

Director of the Administrative Office the responsibility for making this determination. Based on our experience to date, we believe it is more economical to contract for the services as needed and we have not authorized any full-time salaried reporters for the bankruptcy courts. Aside from the issue of costs, there is some question as to whether a full-time salaried reporter in a bankruptcy court can be fully utilized unless they are given additional duties and responsibilities to perform when they are not required in court for the purpose of recording official proceedings. There is another problem as it relates to reporters in bankruptcy courts and that is they may not retain the emoluments of the office and any fees collected from the sale of transcripts would necessarily have to be deposited into the General Fund of the Treasury.

Management of Reporters and Utilization of Resources

The reporters are subject to the supervision of the appointing court and the Judicial Conference in the performance of their duties, including dealings with parties requesting transcripts. Our management review of the district courts and the statistical data submitted to us by the reporters would clearly indicate that they are not being fully utilized. We are well aware of the fact that the workload is not being equally distributed despite the fact that all reporters receive the same basic salary. We have some reporters in the system who are not performing at what we would consider an acceptable level of competence. We also have reporters who are habitually delinquent in producing transcripts which in turn delays the appellate process. Regrettably, there are no rewards for efficiency and no real penalties for inefficiency. The reporters have a captive clientele; there is always a market for their products. The consumers, i.e., litigants, cannot obtain a transcript of the proceedings from any other source. Therefore, irrespective of whether a transcript is produced on a timely basis, the reporter is assured of his fees and suffers no

monetary loss. We have documented evidence that there are reporters in the system who are guilty of overcharging litigants for transcripts. When we become aware of these overcharges, we bring them to the attention of the chief judges of the district courts and to the respective judicial councils of the circuit. There are no sanctions in law nor any fines or penalties provided for when a reporter violates the rules and regulations of the Judicial Conference short of the dismissal of the reporter for cause. In any case in which a reporter is guilty of overcharging with respect to a Government agency, he or she can be prosecuted and restitution can be made. There is, however, some question as to the extent a court may effectively require restitution of overcharges as it relates to private parties. As indicated by the General Accounting Office in their prepared statement, it is quite obvious there is a need for effective management and supervision of reporters. There also is a need for the pooling of our resources particularly in multi-judge courts so as to provide for a more equal distribution of the workload. Although the statute is quite clear that the "court" shall appoint reporters to serve the "court," traditionally, by consent or agreement, individual judges have been recruiting and appointing their own reporters or the courts have appointed and assigned to each judge his own reporter. As a consequence of the personal relationships that have developed between the judges and their reporters, it has been extremely difficult and almost impossible to implement and enforce the pooling and rotation of reporters in many of the courts consistent with the policy of the Judicial Conference and as it was contemplated by the Congress. A number of multi-judge courts, in an effort to equalize the workload of reporters and minimize the need for contractual services, have in fact entered orders or made some form of pooling arrangement. However, these pools mainly rely on the "good will" not the obligation of the reporters to serve magistrates and judges other than their "own." Court reporters have no desire to serve the magistrates as there is a limited demand for transcripts

and consequently the recording of proceedings before magistrates does not generate any additional income. The reporters naturally would prefer to use their free time to produce transcripts which they can in turn sell for a profit. Task sharing, as such, is done only when it is to the reporter's advantage financially, i.e., assisting another reporter in producing transcripts on a daily or hourly basis for a premium fee.

Private (Outside) Reporting Activities

Many of the Federal court reporters currently are engaged in extensive private reporting work with the consent and approval of their respective courts and/or the judges to whom they are assigned. The legislative history of the Court Reporters Act clearly authorized such free lance reporting activities. A survey of the judges conducted by the Administrative Office showed some differences of opinion as to whether reporters should be allowed to engage in private reporting work. The general consensus of opinion among the judges was that private reporting would not necessarily constitute a conflict of interest if it was limited to case related activities and did not interfere with a reporter's official work. The Judicial Conference of the United States left the matter of outside reporting to the discretion of each individual court providing the reporters did not neglect their official duties. The Judicial Conference, as a matter of policy, asked that the use of substitute reporters be limited and that if a reporter does not personally serve the court but in fact subcontracts these services, the employer/employee relationship should be terminated. This resolution of the Conference was intended to obviate situations where official salaried court reporters provide substitutes at their own expense while personally engaged in private reporting activities.

Competency of Reporters

Mr. Chairman, I believe I can say that generally the reporters in the district courts are quite competent and provide a very high caliber of services. There are, of course, some exceptions, reporters who are incompetent or, as I previously indicated, who are habitually delinquent in the production of transcripts. The Judicial Conference has adopted "subjective hiring criteria." To qualify for appointment, a reporter must have four years of prime court reporting experience and a certificate of proficiency from the National Shorthand Reporters Association, or the equivalent. These provisions may and often are waived. We are currently in the process of reviewing these standards and intend to make some recommendations for changes to Judge Campbell's Subcommittee. We believe that the criteria for appointment should include qualifying factors such as accuracy in notereading, a proven track record in transcript production, a physical hearing examination, and references of clients and judges in order to screen out the "dead wood" and to hire only the best qualified reporters available.

It may be of interest to note that although recognition is being given to reporters who have a merit certificate from the National Shorthand Reporters Association in the form of additional compensation (5 percent increment over base salary), only 35 percent of the reporters currently employed by the district courts have obtained such a certificate which would indicate that 65 percent of the reporters have not or could not meet the requirements for the merit certification. This certification, as I understand it, is based on various speeds depending on the kind of proceeding tested and a 95 percent rate of accuracy.

Attendance and Income of Reporters

Some of the problems I have referred to and which have been referred to by the General Accounting Office no doubt stem from the current bifurcated system. Court reporters in the district courts, for all intents and purposes, are part-time employees who are being paid salaries ranging from \$28,741 to \$31,615 for their attendance in court or in chambers for the purpose of taking notes of proceedings. They do not have a regular tour of duty nor do they get annual or sick leave as do other Government employees. They do receive such benefits as Civil Service retirement, health, and life insurance. They are unique in that they are private entrepreneurs as it relates to the production and sale of transcripts ordered by the parties. In that role, they pay all of their own expenses which would include fees of notereaders and transcribers, equipment, supplies, telephone services, and postage. Many of them engage in free lance reporting work which is quite extensive. On the average, court reporters spend approximately 15 hours a week in court. They produce, on the average, 10,000 pages of official transcripts per year. These figures may be of little value considering the substantial variance in the amount of time reporters spend in court and in the volume of transcripts being produced. There also is a considerable difference in the income from the sale of official transcripts. On the average, the court reporters' net income from the sale of official transcripts approximates \$12,000--but there are several reporters who have had annual earnings of over \$100,000. One reporter, during calendar year 1980, reported a net profit from the sale of transcripts of over \$200,000. During calendar year 1980, there were more than 80 reporters who reported a combined net income (salary and fees) of over \$50,000. Conversely, there were a number of reporters who claimed they sustained a monetary loss from the production and sale of transcripts. Some also claimed they lost money in connection with their free lance work.

The current bifurcated system was primarily intended to provide an incentive for the reporters to produce transcripts on a timely basis. A Committee of the Judicial Conference in 1941 had rejected a suggestion that reporters be paid a flat salary and that fees for transcripts be paid into the public Treasury having acknowledged the fact that "Human nature, being what it is, transcripts will be more promptly furnished, if the reporter is dependent upon prompt performance of duty for prompt payment." Considering some of the problems we have experienced with the backlog in transcripts, there would appear to be some question as to whether the current arrangement whereby reporters retain the emoluments of the office does, in fact, provide the incentive that was intended by the Judicial Conference and by the Congress.

Computer Aided Transcription

There is no doubt other means of recording and transcribing court proceedings, i.e., electronic sound recording, computer aided transcription, video tape, voice writing, or stenomask may also serve our purpose. The testimony of witnesses scheduled to appear before this Committee today who are considered experts in these fields, will be of considerable interest. With respect to computer aided transcription (CAT), it would appear that this technology is still in a state of evolution. Based on reports I have read, there would appear to be some question as to whether it is, in fact, cost effective. CAT does provide some relief of the tedious tasks of reading, translating, dictating, editing, and typing transcripts. CAT systems can and do work but to achieve a cost effective and efficient operation, management of the resources is a key factor. At the present time approximately 10 percent of the Federal reporter population are using CAT. Most of these reporters are also engaged in free lance reporting. Based on a survey conducted by the Federal Judicial Center, 60 percent of the reporters using CAT have found no appreciative improvements

in transcript efficiency. Many of the reporters have expressed disappointment with extensive and excessive amounts of time required to "build" their computer translation dictionary and the time to reach reasonable levels of proficiency especially with respect to accuracy of "first-run" transcript. Reporters acknowledge that CAT may very well be the "wave of the future" but are reluctant to make any personal commitments in money and time nor do they believe that the Federal Judiciary should make any commitments at the present time to CAT technology. To quote from a report by J. Michael Greenwood of the Federal Judicial Center, several reporters have commented "CAT is a tool to help the court reporter but it is not a panacea to resolve transcript delay problems."

Electronic Sound Recording of Proceedings

The General Accounting Office has recommended that electronic sound recording equipment be used by the courts in lieu of live reporters. As I have previously indicated, under existing law we are precluded from using such equipment as it relates to proceedings before district judges. We are currently utilizing electronic recording equipment for some proceedings before magistrates and for first meetings of creditors in bankruptcy courts. We intend to conduct several pilot programs in bankruptcy courts utilizing electronic recording equipment in lieu of live reporters for proceedings before the judges of those courts. In fact, we have a commitment from the Bankruptcy Court in the Southern District of Texas and plan to install the equipment in that court within the next week or two. If we can demonstrate that the recording and transcription of proceedings in the bankruptcy courts through the use of electronic recording equipment will serve our purpose, we hope to persuade other courts to participate in the program. We should, however, bear in mind that the proceedings in the bankruptcy courts are unlike proceedings in

the district courts and some members of the Judiciary have reservations as to whether it is a viable alternative to live reporters. The most obvious way to determine whether electronic recording is an effective alternative to live reporters is to conduct some experimental pilot programs with such equipment in some district courts, but we cannot do so without a change in the statute. In this regard, the Judicial Conference has previously asked for the authority to utilize electronic recording equipment in lieu of reporters but the Congress denied the request.

Mr. Chairman, I would like to once again thank you for this opportunity to appear before your Committee to address the problems we have encountered with respect to court reporting services in the Federal courts. I shall be more than glad to amplify on my prepared statement and shall respond to any questions you or Members of your Committee may have in this regard.

Enclosures.

ADMINISTRATIVE OFFICE OF
THE UNITED STATES COURTS
WASHINGTON, D.C. 20544

IN RE: COURT/JUDICIARY REFORM FOR THE REPORTING OF
LEGAL PROCEEDINGS

GENTLEMEN:

IT HAS RECENTLY COME TO MY ATTENTION THAT THERE IS PRESENTLY
IN PROGRESS SOME BILL OR RECOMMENDATION TO REPLACE THE REPORTERS
IN DISTRICT COURT WITH ELECTRONIC RECORDINGS.

WHY HAS IT TAKEN SO LONG FOR SOMETHING LIKE THIS TO BE INSTITUTED?
I'VE JUST PLACED AN ORDER FOR A LENGTHY APPEAL TRANSCRIPT AND
ADVISED BY THE "OFFICIAL" THAT I WOULD HAVE TO WAIT AT LEAST
SIX MONTHS FOR IT UNLESS I WANTED TO PAY DAILY RATE. IF IT
WERE REPORTED ELECTRONICALLY, SEVERAL TRANSCRIBERS COULD BE
WORKING ON IT AND I WOULDN'T HAVE SUCH A LONG WAIT.

I THINK THE PRESENT SYSTEM EMPLOYED IS RIDICULOUS, BUT WE
ARE AT THE MERCY OF THE REPORTERS AND MUST TAKE WHAT THEY
DISH OUT TO THE LEGAL PROFESSION. PERHAPS WITH A NEW SYSTEM
IN TODAY'S ERA OF STEREO AND HI FIDELITY RECORDINGS, WE CAN
BAND TOGETHER AND SHOW THEM AND THE JUDGES THAT THERE ARE OTHER
MEANS TO A COMPLETED WORK PRODUCT AT A CHEAPER RATE AND AT
A FASTER PACE.

THANK YOU FOR COMING TO THE AID OF THE LEGAL PROFESSION AT A
TIME WHEN IT IS SERIOUSLY NEEDED.

I MUST REMAIN ANONYMOUS AT THIS TIME AS IF THE OFFICIAL REPORTER
KNEW MY FEELINGS, I WOULD PROBABLY NEVER RECEIVE RECEIPT OF
MY ORDER TO PROCESS MY APPEAL.

IN DESPERATION,

A LOS ANGELES ATTORNEY

P.S. I SINCERELY HOPE THE NEW SYSTEM WILL BE INSTALLED
BEFORE THE CLOSE OF FALL WHEN MY NEXT TRIAL IS
SCHEDULED. I WILL BE LOOKING FORWARD TO IT!

OFFICE
JUL 14 1981

Post Office Box 1231
Redondo Beach, CA 90278
July 14, 1981

William E. Foley, Director
Administrative Office of
the United States Courts
Washington, D.C. 20544

Dear Mr. Foley:

Congratulations on your remarks made before the Subcommittee
on the Judiciary re court reporting services in the U.S.
District Courts. I wholeheartedly agree that the legisla-
tion was adequate in 1944 and that conditions have changed.

Having been involved in a National Labor Relations Board
hearing and noticing the method of reporting was by a reporter
employing the use of a tape recorder with mixers and mikes,
I was leary about the finished product until I received a
three-volume transcript, approximately 675 pages total count
exactly 9 days following the close of the hearing. While
reviewing the testimony I was impressed with the accuracy
of the system and inquired further why this system was not
employed in the U.S. District Courts. After discussing the
matter with various reporters, your name was supplied to me.

The matter at the National Labor Relations Board was appealed
and filed in U.S. District Court, Central District. The case
proceeded to trial. Hence, I am now in the process of filing
an appeal for my company. The trial took four days to complete,
one additional day from the first hearing held at the NLRB.
I have been advised that my appeal transcript cannot be pre-
pared in the time I was advised by the appellate desk of 30
days, but that the reporter would be filing for an extension
of time for filing and I might have it by the end of October.

As of this time I fail to understand why electronics or tapes
are not employed in the U.S. District Court. If it can be used
at an administrative hearing of the government, such as the NLRB,
why it can't be used in the District Court where those matters
are appealed to. It took nine days to receive the transcript
with electronic recording and with a real reporter using
stenotype, I might have it after a four months' wait.

Is this justice? My court matter does not involve me personally,
but it does involve my employer. I was advised by the official
reporter that new developments may be instituted shortly to
prevent these situations in the future. I can truthfully say
after my experiences, the shorthand system employed by stenotype
is an archaic system in need of reform.

Your assistance in making these changes would be appreciated by
all litigants, not to mention the legal profession.

Sincerely,


Paul E. Stephenson

OVERCHARGES AND EXCESSIVE USE OF SUBSTITUTES

Senator DOLE. Mr. Anderson, I have read your statement and you have summarized it here. You described a number of instances in which court reporters assess transcript fees in excess of the fees permitted by the Judicial Conference and in which court reporters pay freelance reporters to substitute for them in district court while they, the official reporters, use that time to pursue other profitmaking ventures.

In your statement, you did indicate to some extent how pervasive the problems of overcharging and improperly using substitute reporters is among the 600 or so official district court reporters. Maybe that is in your more lengthy statement.

Is that widespread? It would appear to be from your statement.

Mr. ANDERSON. Based on the incidents that we found, I would say that it was widespread. For example, with respect to overcharging, we found that 42 of 51 court reporters we examined were overcharging.

This would also seem to be borne out by the reviews that the Administrative Office of the U.S. Courts has done. I think their audit reports over the last 4 years have identified 51 districts where overcharging was occurring.

With respect to the use of substitutes, the Administrative Office of the U.S. Courts has identified 43 court reporters who used substitutes more than 25 percent of the time. There are some questions about the accuracy of the data reported to the Administrative Office. Therefore, the use of substitutes could be higher, but these problems are widespread.

Senator DOLE. Do you think the problem of overcharging is in part due to an unrealistic fee schedule as set by the Judicial Conference?

Mr. ANDERSON. I am reluctant to agree with that, sir, because of two pieces of evidence that I am aware of. First, the Social Security Administration acquires transcription services at present for about 97 cents a page. I am also aware that the D.C. Superior Court pays about \$1 a page.

In other words, when I consider we are starting with a recording that the court reporters generally prepare, I have no reason to believe that the fee schedule is inappropriate or results in too little income for the court reporters.

In fact, I should point out, and I think it was brought out in the other statements as well, that the average court reporter realized net income from the sale of transcripts in addition to their basic salary of about \$12,000 in calendar year 1980.

Senator DOLE. Do you have any extremes in either case?

Mr. ANDERSON. The Administrative Office cites one reporter who netted over \$200,000 and 80 reporters who made over \$50,000. It appears that it is good business for a lot of folks.

Senator DOLE. You can hardly lose if you are on the Federal payroll in addition.

Mr. ANDERSON. I am including their Federal pay in those amounts, sir. When I say 80 made over \$50,000, that starts with their basic salary of \$30,000.

SUPERVISION OF REPORTERS

Senator DOLE. I think everyone has stated that part of the problem is supervision. Do you have any recommendations in that area? Who could provide supervision?

I can say we are in a time when we are looking for ways to save money. One place we should look is where there is waste, fraud, and abuse in programs where taxpayer dollars are unfairly used by some in our service.

I think it is unfortunate that in 37 years there has never been an oversight hearing. I think that is an indication that things are changing in this country. It has probably gotten out of hand because Congress has not been responsible. Hopefully, we can correct that.

Do you have any recommendations for how there could be supervision and who would do that?

Mr. ANDERSON. The clerk of the court would seem to be the most obvious person to take responsibility for the assignment and pooling of court reporters, sir. I should also point out in connection with the bankruptcy courts that the point was made that they use contract reporters there quite successfully. I suspect there are a lot of courts with marginal volume to justify a full-time court reporter.

Therefore, No. 1, I would make the clerk of the court responsible for the pooling arrangements. No. 2, I would also charge the clerk with providing court reporter services either under contract or as justified with a full-time court reporter, making that determination on a court-by-court basis.

ELECTRONIC RECORDING OF PROCEEDINGS

Senator DOLE. I think you have all touched upon the recommendation that electronic recording equipment could be introduced into the Federal court system, but it would take some time to implement that. It would appear that administrative and management reforms are necessary if we are to see any short-term improvement. I think the other has possibility in the future.

If you were to try to prioritize the need for improvement, do you have any one area we could direct our attention to?

Mr. ANDERSON. I would say the most immediate need would be to make the clerk of the court responsible for providing court reporter services to the courts and to authorize them to direct the activities of court reporters to assure that we avoid contracting out or hiring per diem reporters when, in fact, we have court reporters available. That would probably be the biggest single step that could be done. I would also charge them with responsibility for overseeing the appropriateness of fees charged litigants and others.

Senator DOLE. The primary focus of the GAO report appears to be upon the court reporting function as practiced in the district courts as opposed to magistrates or bankruptcy courts and upon the recording phase as opposed to the transcription phase. Would you please comment on the relevance of the findings of your report of your cost estimates to magistrates and bankruptcy proceedings?

Mr. ANDERSON. Recording services for bankruptcy proceedings right now are largely acquired under contract. To a certain extent with magistrates, we have moved in the direction of electronic

recording. I would say though that our recommendations here would be equally applicable. That is, our recommendations to explore the feasibility of electronic recording would be equally applicable to those other courts.

Senator DOLE. Mr. Garabedian, you have indicated you made two attempts to have the authority to use electronic sound recording as the exclusive method for making the record. What has been the response from Congress to these requests?

Mr. GARABEDIAN. In 1959, the Judicial Conference of the United States passed a resolution requesting that our office go to the Congress and request that we be authorized to use electronic recording equipment. We did what the Judicial Conference asked us to do and went before the Appropriations Committees of the Congress asking for funds to buy the equipment and install it in lieu of salaried court reporters. The Appropriations Committees rejected it on the ground that we needed substantive legislation.

In 1965, we returned with a draft bill suggesting again that electronic recording devices be authorized. At that time, it was authorized only as backup to the notes taken by reporters.

Once again in 1970, we made an effort to obtain authority for electronic recording or the use of electronic recording equipment. At that time, the Congress authorized use of that equipment only as it relates to the recording of arraignments, pleas, and sentences in criminal cases to obviate the need for a court reporter to produce transcripts of those proceedings. It basically resulted in a savings to the court reporters.

Senator DOLE. You have not pursued it since that time?

Mr. GARABEDIAN. No, sir. The matter has been under consideration. We have not submitted any draft legislation to Congress.

EARNINGS OF REPORTERS

Senator DOLE. Judge, you have indicated that some court reporters earn more than judges. That is true around here, too. They probably earn more than Members.

How many court reporters fall into this category?

Judge CAMPBELL. I think that is a statement that is of interest. I am sure there are no more than one or two, at least that I have been told about, who would fall into that category.

Mr. GARABEDIAN. Mr. Chairman, if I may, there are 16 reporters earning over \$64,000.

Judge CAMPBELL. I stand corrected.

Senator DOLE. I do not quarrel with that. I just think it is probably an anomaly there that the judge must think about.

Judge CAMPBELL. I did not really bring it up except as an example.

Senator DOLE. Judge, is there any mechanism for enforcing the Judicial Conference guidelines? Does the U.S. Attorney's Office have any power under the current statute to prosecute criminal actions for overcharging, sometimes thousands of dollars? Just what enforcement procedure is there?

Judge CAMPBELL. This is a murky area. I suppose if there was a deliberate fraudulent scheme, misrepresentations, and so forth, possibly there would be a criminal offense. However, there is no

statute tailored at the moment to this problem. It can be a problem to provide any form of effective penalty for this.

Senator DOLE. What about civil action for excessive charges in transcript fees?

Judge CAMPBELL. Of course the people who normally pay for this will be private litigants. I would assume that they might sue on some civil basis.

Senator DOLE. Does that ever happen? They probably do not know. It is all lumped into court costs. It is like going to the hospital. All they get is the bill.

Judge CAMPBELL. Yes.

Mr. ANDERSON. If I can interrupt for just a second, Mr. Chairman, we found that a lot of attorneys were not even aware of the fact that there was a fee schedule. In some cases, even where they were, they really did not care that much since the bill was passed along to the client and did not come out of their pockets.

POOLING OF REPORTERS

Senator DOLE. Being an attorney, I think that is a problem. As long as somebody is going to pay for it, do not worry about it.

There was some reference made about pooling arrangements. As I understand it, the only true pooling system is in the Southern District of New York. I guess the others are modified versions of that one.

Do these work well in practice?

Judge CAMPBELL. If I can speak to that, we have been trying with the Administrative Office to require pooling. It is a hard thing to do because many reporters like to work for the judge to whom they have been assigned. However, if they are asked to go off and take transcripts at a magistrate's hearing or something of that sort, particularly if they do not think they will be able to sell a transcript, they frequently will decline to do it.

We also have many situations where judges are reluctant to push their reporters into a pooling arrangement. This is something we are trying to do. It certainly has to come.

Senator DOLE. The GAO report, whose findings are based upon the time records submitted by the reporters themselves, state that on an average the official reporters spend only about 15 hours per week in court. Is that about what they are expected to do? That is better than the air traffic controllers.

Mr. ANDERSON. That understates the demands that the courts make upon their time, sir, because obviously they have to be present, just like the jurors, just in case a court proceeds with a trial. That does understate. The 15 hours should be understood in some broader context. There are some additional number of hours where a reporter must be available but may not be recording proceedings.

Senator DOLE. They probably have other obligations, too, other than just spending their time in court.

Mr. ANDERSON. Exactly.

Senator DOLE. Mr. Velde?

Mr. VELDE. Mr. Chairman, I think this subcommittee would be subject to a contempt of court charge if we did not extend an especially warm welcome to Judge Campbell. His colleague on the circuit court bench, former chief counsel of this committee, Mr.

Breyer, expressed interest that we extend him an especially warm welcome.

Judge CAMPBELL. Thank you very much.

Senator DOLE. I have other questions, but I think they have been covered well in your statements. If not, I know we could ask the GAO to submit additional written answers, and I would not impose upon Mr. Garabedian or Judge Campbell unless necessary, but we might want to submit additional questions in writing.

Judge CAMPBELL. I would be happy to respond.

Senator DOLE. Thank you very much.

Mr. VELDE. I have just one question. There seems to be some uncertainty—perhaps that is not the best word—as to the status of the reporters. They are certainly Federal employees. However, they do not qualify for the Federal retirement system, although I understand they do get medical benefits and perhaps some other fringes.

Do you know offhand what their status is as far as the Ethics in Government Act? Are they required to submit statements? Do they fall under the general prohibitions that other employees do?

It appears that the 1944 act may give them some preferred or unique status with respect to the applicability of this law, but in our very brief review we were not able to make a determination.

Mr. GARABEDIAN. The court reporters were not specifically covered by that act, although I recently asked Judge Tamm, who is responsible for the financial disclosure statements being filed by many of the judicial officers, that it be extended to include court reporters, particularly those who were earning over \$50,000 a year, the equivalent of GS-18 in the Government schedule.

That matter is under consideration by Judge Tamm's committee. We feel that they should be subject to financial disclosure statements just as the judges and other high level judicial officers are. However, it is not specifically provided for by the act.

Senator DOLE. You say it is under review by the judges?

Mr. GARABEDIAN. Judge Tamm's committee, a committee of the Judicial Conference.

Senator DOLE. Would we have to amend the act?

Mr. GARABEDIAN. I believe that it might be extended to them administratively without a specific act of Congress.

I might say one more thing, Mr. Velde. They are subject to civil service retirement. They get all the retirement benefits and life and health insurance benefits. Although they are technically part-time employees as ruled by the Comptroller General, and then wear this other hat and serve as private entrepreneurs, they get all of the benefits of a Government employee with one exception. That is annual and sick leave as such. We do give them some sick leave benefits through a ruling of the Judicial Conference.

Senator DOLE. Then they qualify for social security benefits in their other capacity?

Mr. GARABEDIAN. With respect to their private earnings, yes, sir, they would qualify for social security benefits.

Senator DOLE. Not bad.

Mr. VELDE. Thank you, Mr. Chairman.

Senator DOLE. Thank you.

Our next panel consists of Richard Dagdigian, immediate past president, United States Court Reporters Association, Chicago, Ill.;

Hon. Thomas Griesa, U.S. District Court, Southern District of New York; Joseph Gimelli, Court Reporting Services, Alexandria, Va.; and Richard E. Peppey, past president, National Shorthand Reporters Association, Milwaukee, Wis.

If it is satisfactory, we will hear your statements in the order your names were read.

STATEMENT OF RICHARD H. DAGDIGIAN, IMMEDIATE PAST PRESIDENT, UNITED STATES COURT REPORTERS ASSOCIATION, CHICAGO, ILL., ACCOMPANIED BY SAMUEL M. BLUMBERG, JR., EXECUTIVE DIRECTOR

Mr. DAGDIGIAN. Mr. Chairman and members of the subcommittee, my name is Richard H. Dagdigian of Chicago, Ill. I am an official court reporter for the U.S. District Court in the Northern District of Illinois, and I am the immediate past president of the United States Court Reporters Association, hereinafter referred to as USCRA.

With me, by your permission, is Mr. Samuel M. Blumberg, Jr., of Reading, Pa., where he is an official court reporter for the Eastern District of Pennsylvania, and he is also the executive director of USCRA. He will assist me in answering any questions you may have.

We deeply appreciate the honor of being permitted to appear before this distinguished subcommittee to make a brief oral statement, supplementing the lengthy written testimony previously tendered.

We believe our prepared statement covers in full detail all of the issues with which this subcommittee is concerned. Therefore, we will only speak briefly to two general topics covered by the GAO in its prepared statement as related to us earlier this week by John M. Ols, Jr., Assistant Director of the General Accounting Office.

Mr. Ols told us that the GAO does agree with USCRA's position in one respect, and that is that the present Court Reporter Act, 28 U.S.C. 753, does provide within it the means by which to administratively correct certain alleged and/or actual deficiencies in the operation of the present system.

For example, the General Accounting Office asserts that they found in their survey that some reporters have been charging litigants unauthorized fees, such as charges for binding transcripts, delivery charges, minimum fees, postage, et cetera.

The General Accounting Office further states that some reporters have improperly charged counsel for the use of substitute reporters while the official reporters were assisting on daily copy trials. The Administrative Office has never issued any regulations addressing such matters.

Some 5 or more years ago, the Administrative Office circulated a draft of Rules and Regulations for Court Reporters for comment, emphasizing that it was only a draft and would later be finalized and adopted. That draft has never seen the light of day as anything more than a draft or redraft. It has not to this date been formalized as a manual, guidelines, or regulations for official court reporters.

USCRA is proud of the fact that it helped establish the Qualifications and Compensation Plan for Official Court Reporters in the

U.S. district courts, a plan intended to attract and provide for qualified reporters. And yet the Administrative Office consistently approves the appointment of reporters who are not qualified, either on a probationary basis without further followup, or they permit the hiring of alleged reporters who use and rely solely upon tape recorders, without advising the judge that that is not permitted by the Court Reporters Act.

We believe it is clear that the Administrative Office has failed to do the job that it has been directed to do by the Congress of the United States and the Judicial Conference of the United States.

In March of this year the Judicial Conference approved a 20-percent increase in transcript rates as to any category of transcript delivery, on an ad hoc, case-by-case basis, if the chief judge of the district court could substantiate the need for such relief.

Despite requests from USCRA for clarification of the Judicial Conference resolution, no bulletin has ever been sent out to the judges of the district courts, so that they do not even know the procedure involved in attempting to secure approval of the 20-percent increase.

It is our position—and we urge this committee to find—that any of the deficiencies cited by the GAO or others can and should be corrected at the district court level by implementation of appropriate administrative procedures, which has been done in many districts, as indicated by judges in letters sent to this subcommittee.

We do submit further, Mr. Chairman, that there is only one true innovative concept and technology that has emerged which offers a cost-effective breakthrough in this field, and that is computer-aided transcription utilized by the live court reporter.

We have discussed the CAT concept in our prepared statement, and there are others present today who will speak to its use.

Frankly, we are shocked at the narrow, solely cost-conscious accountant's approach taken by the GAO, with no real consideration given to the effects on the quality of justice. Are we seeking change for the sake of change only, or are we interested in maintaining the requisite standards in the Federal courts, which have historically served as the model for our State courts?

We would urge you to give serious consideration to the comments of the many Federal district judges who have written to the chairman of this subcommittee on this subject. And when you do so, we ask you to remember, also, that they have no vested interest in the court reporter, and that they sit in the daily trial arena coping with the realities of life in the courtroom, which is far different from a controlled sound recording studio.

Mr. Chairman, we respectfully submit that this subcommittee should dismiss out of hand any proposal that live court reporters be replaced in the U.S. district courts by any electronic recording system, and that this subcommittee should also dismiss out of hand any proposed changes in the present Court Reporter Act, since any and all necessary revisions in procedures can and should be accomplished administratively at the district court level.

Thank you for your kind attention.

Senator DOLE. Thank you.

[The prepared statement and supplemental prepared statement of Mr. Dagdigian follow:]

PREPARED STATEMENT OF RICHARD H. DAGDIGIAN

Mr. Chairman and Members of the Subcommittee:

My name is Richard H. Dagdigian, of Chicago, Illinois. I am immediate past president of the United States Court Reporters Association (USCRA).

Seated with me is Samuel M. Blumberg, Jr., Executive Director of the United States Court Reporters Association, who will assist me in answering any questions which the members of the Subcommittee may have.

With the Chairman's permission, I would like to take a moment to acknowledge the fact that Mr. Blumberg has been an official court reporter in the United States District Court for the Eastern District of Pennsylvania, serving at Philadelphia and Reading, since October 1, 1945, and today is his last day of government employment, as he will be formally retired as of the close of business today.

On behalf of the members of USCRA, we thank you for the opportunity of submitting this statement which we believe covers all of the matters currently under consideration by this Subcommittee of the court reporting system in the United States District Courts.

The United States Court Reporters Association was organized in 1945, immediately after the implementation of the Court Reporters Act on July 1 of that year. USCRA is a non-profit association of reporters appointed under Title 28, United States Code, Section 753, the object of which is to bring together the official court reporters in the United States District Courts for the following purposes: To assist in establishing and maintaining the proper standards of proficiency and professional conduct; to promote friendly relations and to disseminate information; and to endeavor to secure the enactment of just and equitable laws and the promulgation of reasonable

and satisfactory rules and regulations thereunder generally affecting the members of the Association.

The oversight hearing now being conducted by this Subcommittee is, to our knowledge, the first such hearing by either the Senate or the House of Representatives since the establishment of the official court reporting system in the United States District Courts.

The United States Court Reporters Association is pleased that this Subcommittee has undertaken this task, because it believes that after a thorough review of the matters to be considered today, you will reach the conclusion that, in fact, the present court reporter law, 28 U.S.C., 753, although it is now 37 years old, is still a proper, wise and workable piece of legislation; and that although some changes may be deemed essential, you will find, and we hope to convince you, that those changes can and should be made administratively under the present law.

Years ago a very wise old judge would charge his juries that they were not to "cannonade the butterfly." We respectfully suggest that it is not necessary to "cannonade" the present court reporting system in order to correct any alleged or actual deficiencies in the operation of the present system.

USCRA has been advised that this Subcommittee on Courts is interested in learning about alternative methods of reporting, such as electronic tape recording, stenomask and voicewriting methods; computer-aided transcription; full utilization of reporting personnel; advisability of putting reporters on a full-time, flat salaried basis, with transcript fees going to the Treasury of the United States; reviewing the current transcript rate structure; inquiring about alleged complaints of overcharging by reporters and incompetency of reporters; the possible use of competitive bid contracting for reportorial services for the District Courts; effective manage-

ment of reporter personnel by mandatory pooling systems; and the pros and cons of the problems alleged to exist in the present court reporting system, and to attempt to find ways and means to make it easier and less expensive for litigants to obtain transcripts, all with a view to determining the necessity of introducing a new court reporters bill.

In this Prepared Statement, the United States Court Reporters Association will address all of the items listed in the preceding paragraph. And because the members of this Subcommittee are lawyers almost all of whom have actively practiced law in the various courts, and some of whom have served as judges in various jurisdictions, we are confident that they will understand the realities of life in the courtroom and not be misled by mere statistics, which can mean different things to different interpreters of those statistics.

USCRA did, by a letter dated May 21, 1981, to all United States District Judges, inform them of this oversight hearing, and we did, in fact, suggest that they should write to the Chairman and members of this Subcommittee, if they felt so inclined, with their views about the present court reporting system and possible changes in the statute and the system. The May 21, 1981, letter is attached as Exhibit 1.

We know that a number of judges have written to the Chairman and members of the Subcommittee, because USCRA has received copies of some of those letters. We are sure that such letters from United States Judges, judges who in the first instance were nominated for office by one of you or your colleagues, and then confirmed by the Committee on the Judiciary and then by the entire Senate, will be of particular significance to you as you eventually prepare your findings, conclusions, and recommendations. While it is true that the reporters for whom we speak have a special, vested interest in

maintaining their positions, the same cannot be said for the judges of the United States Courts, who are appointed for life, and who owe no particular allegiance to the court reporters assigned to their courtrooms.

Before addressing the specific issues in which this Subcommittee has expressed its interest and concern, we would like to quote from a letter written to Senator Dole by the Honorable Shane Devine, District Judge of the District of New Hampshire. The letter is dated May 29, 1981, and in it Judge Devine states that he was a trial lawyer of some 26 years experience prior to coming to the Court. Judge Devine concludes his letter, in reference to the present court reporting system, with these words:

"As I complete dictating this letter, I am standing in a recess of a criminal trial mandated by the fact that a tape recording of a criminal defendant has not proven to be all that it was represented to be. In the words of the well-known idiom, 'If it ain't broke, don't fix it.'"

We urge the Subcommittee to keep that thought in mind as it proceeds with this oversight hearing and as it prepares its findings, conclusions and recommendations.

ALTERNATIVE METHODS OF REPORTING

An analysis of the present reporting methods in the United States District Courts and alternatives to those present methods must also include an analysis of the methods or means of transcribing the proceedings which have been reported by whatever method by the official court reporter.

Currently the following methods of reporting and transcribing are used by reporters in the United States District Courts:

1. Manual (pen or pencil) shorthand; i. e., Gregg, Pitman, or variations thereof. This is of little concern, because there are no longer any schools teaching "reporting" manual shorthand, and through the normal course of attrition, there will soon be no pen or pencil manual writers in the United States District Courts.

Reporters using this method ordinarily dictate their shorthand notes to a dictating machine and have a transcriber who then types from the reporter's dictation, producing, after proofreading, a finished transcript. Some "manual" shorthand writers may also type some or all of their transcripts, depending on their location and the volume of demand for transcripts.

2. Machine shorthand -- Stenotype. There are several manufacturers of stenotype machines, but they are all based on the same method of operation, with the same alphabetical characters and numbers on the machines, which print out on a continuous paper tape the alphabetical and numerical symbols keyed or typed in by the stenotype operator.

Stenotype reporters, for transcription purposes, also either dictate their notes to a dictating machine, type their own transcripts, or use a "notereader" to transcribe directly from the reporter's stenotype notes, thereby eliminating the need for the reporter to dictate or type his or her notes. Some stenotype reporters, using two notereaders, can produce daily, or even hourly transcripts, using this method. They stay in the courtroom and have the notereaders, or runners, come into the courtroom for more of the reporter's stenotype notes; thus, while the reporter is still in the courtroom, the transcript is being produced.

3. Stenomask, or voicewriting. These are actually two distinct methods of reporting, although sometimes an effort is made to combine them into one method.

In the stenomask method, the reporter holds a mask to his face to muffle the sound as he verbally repeats what he hears during the trial or proceeding onto a recording device, either a tape recorder, or a disc-type piece of dictating equipment. Ordinarily, there is no backup recorder used by this type of reporter, who

relies exclusively on his skill in repeating everything he hears in a verbatim fashion. There are, we believe, not more than a dozen such stenomask reporters in the United States District Courts.

The "voicewriting" method of reporting is somewhat different, in that the "reporter" does not use a mask, but whispers softly into an open microphone which is held close to the "reporter's" mouth. This dictation goes onto a tape recorder on one track of the tape, and on the other track of the tape recorder the actual courtroom proceedings are recorded through one separate microphone. The second track and additional microphone are for the purpose of ensuring that there is a backup to the reporter's repetition of what he hears in the courtroom. There is no assurance, however, that a malfunctioning of the equipment will not occur, and that there will be nothing recorded on one or both tracks of the equipment. This same possibility exists with the stenomask method of reporting.

The theory behind the stenomask and voicewriting methods is that they completely eliminate the necessity of the reporter ever leaving the courtroom; that the tapes or discs so produced can be turned over to a transcriber and that a verbatim, certifiable transcript can be produced in the absence of the reporter.

USCRA is aware of only one reporter in the United States District Courts who uses the voicewriting method, and that is a former stenotype reporter who developed arthritis in her hands and could no longer use the stenotype machine.

The transcription process for the stenomask and voicewriting methods, in fact, however, is not as has been touted by the promoters of the systems. While theoretically it is possible to do what is claimed, the fact is that many stenomask operators listen to their dictated proceedings with the use of an earphone, and then redictate them onto a regular dictating unit for transcription by a typist-

transcriber, or personally type from their own dictation. This latter statement is also true of the one voicewriter of whom we are aware in the United States District Courts.

Many of the reporters in the United States District Courts who use methods 1 and 2, manual (pen or pencil) shorthand, or stenotype, also use a tape recorder as a "backup" device, or for later verification of the record in case of a challenge by an attorney or the court as to the accuracy of the transcript. This "backup" device, furnished at the expense of the reporter, is also an assurance that if the reporter becomes disabled or dies and leaves untranscribed notes behind, there will be another reporter who, with the notes and the tape recording, can produce a certifiable transcript, so that there need not ever be another Carol Chessman case, where a transcript was not available because the reporter's notes were not decipherable.

The stenomask system of reporting has been in existence for over 25 years, and has yet made no significant impact at the higher levels of the reporting profession. The voicewriting method, developed by Joseph J. Gimelli, has been on the scene for ten years or more, and it also has made no impact on the reporting scene. Both stenomask and voicewriting methods receive a common complaint from many judges and lawyers, which is that those near such a reporter are disturbed by the mumbling which can be overheard from the reporter.

Neither method has demonstrated an ability to utilize any of the latest technology, more particularly, the only recent significant improvement in the reporting field; i. e., computer-aided transcription, used in conjunction with the stenotype machine, and by means of which almost instant transcript can be provided.

Item No. 4 in the methods of reporting is the just-mentioned

computer-aided transcription, or CAT, which offers a real breakthrough in transcript production where all other methods fail, and that is in the utilization by the live court reporter of CAT equipment.

WHAT IS CAT?

Computer-aided transcription technology eliminates some of the time-consuming steps in the transcription process. With CAT technology, the reporter produces shorthand notes in the same manner with a stenotype machine. However, this CAT stenotype machine simultaneously produces a magnetic tape cassette copy of the stenoform notes. The cassette is processed by a computer that translates the stenographic keystrokes to English language. The reporter then reviews the transcript in one of two ways. A paper copy of the transcript can be produced via high speed printer, or the reporter can edit the transcript on a cathode ray tube (CRT) video terminal (akin to a TV screen with a keyboard), which permits the making of immediate corrections of untranslated stenoform outlines, word conflicts (instances where a set of stenographic keystrokes are defined as more than one word in the computer translation dictionary), or punctuation in the transcript. Following this edit, a printer can quickly and economically produce one or more copies of the transcript, which will be free of typographical errors.

CAT has the potential to reduce the involvement of the reporter to the original note taking and one edit cycle, thus saving the court reporter's time. After a reporter's computer translation dictionary has been fully developed and shorthand style adapted, the reporter should be relieved of some of the tedious tasks of reading, translating, dictating, editing, and typing transcripts. The computer should perform these tasks many times faster and has the potential to perform them more economically and with greater

accuracy than traditional methods. In turn, the court reporter should be able to devote more time to recording court proceedings, where shorthand skills and abilities are most productive. This should reduce the need for substitutes and save the court money. Increased productivity should help to keep pace with growing transcript demands or with periodic surges in demand, as well as allow sufficient time to proofread final transcripts to ensure high accuracy.

HOW HAS CAT EVOLVED IN THE LAST FEW YEARS?

A number of substantial changes have occurred in CAT, the most significant of which has been the development and reporter acceptance of user-controlled translation (or stand-alone) CAT systems. Several of the earlier vendors are no longer in business. Those who are have significantly modified both their CAT hardware and software.

CURRENT CAT TECHNOLOGY

At the end of 1980, there were five CAT vendors with viable operational systems. All five offer various versions of a stand-alone CAT system. One also offers a modified version of the service bureau approach to CAT. Four vendors are new since 1977: Cimarron Systems of Greenville, Texas, which has been purchased by Stenograph Corporation; Reporter's C.A.T. Systems, Inc., of Greenville, South Carolina; Translation Systems, Inc., of Rockville, Maryland; and Xscribe Corporation of San Diego, California. One of the vendors, Stenograph Corporation of Skokie, Illinois, was in business in 1977, but has significantly modified its CAT system since then, and has also purchased the Cimarron system. Only one vendor, Baron Data, Inc., of San Leandro, California, is marketing the basic system (with modifications) it initiated in 1975-76. Baron recently announced the availability of a less sophisticated and hence less

costly version of its basic system. Vendor estimates of the number of systems operating at the end of 1980 are shown in Figure 1.

FIGURE 1: CAT INSTALLATIONS AS OF 1/15/81

Vendor	Total number of CATs installed*	Number of court-sponsored CATs installed or ordered	Number of reporters using vendor system
Baron Data	250	9	1,500
Reporter's C.A.T., Inc.	1	-0-	14
Stenograph Corporation Cimarron System Steno-CAT System	75	2	140-170
Translation Systems, Inc.	18	5	81
Xscribe Corporation	1	-0-	30
Totals	345	15	1,765-1,795

*Does not include systems ordered but not yet installed.

Note: Based on a survey of the vendors regarding the number of systems that have been ordered for implementation during early 1981, and projecting these figures out for the entire year, it is estimated that the total number of CAT systems installed and pending installation may exceed 600 by the end of 1981.

The benefits of CAT to the Federal System are many:

(a) Stabilizing effect on transcript rates -- lessening the cost of litigation.

Rather than ever-increasing transcript rates, as computers become more advanced, the costs attendant thereto will decrease.

Transcript costs are determined in large measure by the cost incurred by court reporters. If the reporters' costs are lower, the transcript fee charged to the litigant may be lowered.

(b) Transcript delay will be abolished.

Since today a computer can print 125 pages per hour, a

1,000-page transcript (one week of trial) can be printed in a day.

(c) Key word indexing.

The computer can identify frequently-stated words and/or phrases for the Court and litigants.

The present Court Reporting Act, 28 U.S.C., 753, because it allows court reporters to charge fees for transcripts, gives to the government the benefit of the use of the latest technology at no cost to the government.

The Official Court Reporters are keenly interested in adopting modern technology which will enable them to do their job more efficiently, both in regard to time and cost factors. They fully recognize the potential of computer-aided transcription, but are presently reluctant to undertake the very large financial commitment involved as long as there are constant threats to their very jobs.

However, once they can be assured that they are not about to be replaced by a tape recorder, a contract reporter, or put on a flat salary without the incentive of retaining transcript fees, they will be willing to undertake this financial responsibility.

And even if individual official court reporters cannot assume such a financial undertaking, the Comptroller General of the United States has already ruled in a decision dated May 25, 1977, File B-185484, in response to a request for an opinion from the Director of the Federal Judicial Center, and has answered this specific question:

"2. Would the establishment of a computer assisted transcription program...including as a key element the fixing of charges at levels to recover all costs, satisfy the objections interposed to the plan...?"

The decision of the Comptroller General was as follows:

"With reference to the second question, our prior decision reasoned that under the D.C. Code provision, which is analogous to 28 U.S.C. Sec. 753, the obligation of court reporters to furnish supplies at their own expense represents a quid pro quo for their retention of transcript fees. Thus our basic objection to the Superior Court proposal was that reporters would continue to receive transcript fees without assuming the full cost of the computer-aided system.

"The Administrative Office's plan would require that the reporters who use the program reimburse the Government for the full cost of providing the service. This would be done by setting the rates for use of the Government service (i.e., the terminal, rental of computer time, necessary software and telecommunications), at a level which would cover the entire cost of the equipment, including depreciation, amortization, repair and operation, plus rentals for computer time and related software. The reporters would still be required to purchase their own stenotype machine, magnetic tapes and other supplies. In the alternative, the Administrative Office would purchase the magnetic tape stenotype machines and, in effect, sell them to the reporters. This satisfies the requirement that the reporters must furnish all necessary supplies, at their own expense. Under these circumstances, we would have no objection to their retention of transcript fees. Accordingly, question 2 is answered in the affirmative."

The decision of the Comptroller General in File B-185484, and the letter from the Administrative Office which refers to the letter of the Director of the Federal Judicial Center, setting forth the question above, as well as other questions, are attached as Exhibits 2A and 2B, respectively.

As Exhibit 3, for the information of the Subcommittee, we attach a document entitled "Report on the Pilot Program for Preparation of Computer-Aided Reporter's Transcripts," dated April 20, 1979, and an up-date of that report dated April 16, 1981, prepared by Wilfried J. Kramer, Clerk for the Court of Appeal, Third Appellate District of the State of California.

ELECTRONIC REPORTING

Electronic recording of court proceedings has for many decades now been advocated by many people and organizations as the great

panacea to the alleged problems inherent in the use of live reporters. And each time the proposal is made to replace the live reporter with tape recorders, or ER, the acronym for the system, those proponents claim that the "state of the art" has now reached the point where it is more cost-efficient, more accurate, faster transcription is possible, and all appellate delays will be eliminated.

As far back as its September 1958 meeting, the Judicial Conference of the United States approved a recommendation of the Committees on Supporting Personnel and Court Administration that the Administrative Office of the United States Courts conduct a management study of court and other reporting systems, the courts or bodies to be surveyed to be left to the discretion of the Director.

At the request of the Director of the Administrative Office, two management analysts from the Bureau of the Budget made the study for the Administrative Office. The 139 page report, issued in 1960, came to be known in court circles as the Parker-Tharp Report, because Charles Parker, Jr., and Norman R. Tharp, Management Analysts from the Bureau of the Budget, made the study and the subsequent report.

As to ER, Parker-Tharp wrote on pages 63 and 64 of their report:

"Next to the audio-visual record, the most exact record is an original high-fidelity sound recording of the proceedings. The advantages of such a record over a shorthand record are numerous. The recorder used in experiments conducted by the Administrative Office is so constructed that the record cannot be erased on the machine and the tapes cannot be tampered with without detection. These recording machines and auxiliary equipment cost about \$2,500 per unit.

"A tape recording of this type provides an exact record of the audible portion of proceedings which would be incontrovertible. It includes all misstatements which speakers may not have been aware of making."

But even Parker-Tharp acknowledged the deficiencies in their proposed "panacea" when they wrote:

"If present high-fidelity recording equipment supplemented by more complete courtroom minutes keyed to the tape does not satisfy the requirements for an accurate record, equipment might be modified to provide two channel recordings on a single tape."

Eventually, Parker-Tharp's proposed "panacea" died a natural death. Now, some twenty years later, we have not two-track, but four- and eight-track electronic recording equipment being offered as the answer to providing cost-efficient court reporting services, and transcripts, with speed and complete accuracy.

Because the courtroom is not a sound stage where people speak clearly and distinctly into a microphone, and where frequently more than one person speaks at the same time, transcribers who must listen to the tape at a later time find it is impossible in many instances to decipher what was said in the courtroom. True, the multi-track tape recorder makes it possible, theoretically, for the transcriber to switch from channel to channel seeking the clearest channel, a very time-consuming process, and a process which slows the rate of transcription immeasurably, thus making prompt appellate review also impossible.

The Court of Claims of the State of New York is a classic example of what happens when a court system employs transcribers for court reporters (this means transcribing from dictated material).

The State-employed transcribers, lacking the per page incentive, produce 30 pages per day (approximately 4 pages per hour), whereas independent typists produce from 12 to 20 pages per hour from dictated or noteread material.

USCRA is familiar with the Baird MCS-1 System of electronic recording in the Superior Court of the District of Columbia. Its Executive Director, Samuel M. Blumberg, Jr., was afforded the opportunity to inspect the equipment along with Mr. Edward V. Garabedian of the Administrative Office.

When the new building for the D. C. Superior Court was built, a contract was awarded to wire all 44 courtrooms and 7 hearing rooms, purchase sufficient equipment to equip 10 courtrooms for electronic recordation and sound reinforcement, outfit one hearing room for recordation only, and to purchase one complete spare system to be used for demonstrations, training, backup, and emergency coverage of a room which is prewired but not equipped. The initial phase of the system went into operation on May 9, 1978, and it has been in continuous use, but only for small claims courts, landlord and tenant cases, and the like. No major trials, we are informed, have been recorded and transcribed using this equipment.

However, even though the courtrooms were acoustically-designed for this particular equipment, and even though Mr. Garabedian and Mr. Blumberg were given the opportunity to monitor the tape as it was being made in the courtroom, no cost figures for transcription were provided. The USCRA representative wanted to purchase a transcript and a copy of the corresponding tape so that a comparison could be made between the two, and this request was denied. Information as to who did the transcribing, how long it took to transcribe a day's proceedings, etc., was all denied on the ground that the Chief Judge liked the system and did not want any publicity about it.

USCRA is also familiar with the centrally controlled electronic recording system in the Hall of Justice in Montreal, Quebec, although it has not sent a representative to inspect the system.

The Montreal central system covers nearly 100 courtrooms, each of which contains five microphone locations (channels). These five channels are electronically mixed down to feed a two-channel tape recorder. This two-channel system works in the Canadian courts because they are very disciplined in comparison to the

majority of the courts in the United States. A standard operating procedure (SOP) is established for every participant in the courtroom, including all judges and attorneys. Microphone locations are clearly defined (microphones are attached to shafts which hang from the ceiling) and all participants are expected to cooperate, or else not participate. These are conditions similar to a radio drama studio where each person is positioned close to a microphone.

When the Montreal system was first implemented, the separate positions of clerk and court reporter were combined, the person doing the logging in the courtroom being responsible for producing the typed transcript. Generally, therefore, a clerk/reporter would work in the courtroom one day, then spend the next day producing the typed transcript. All technical duties involving the system were performed by the control room staff. As mentioned earlier, the Canadian system is based on the discipline required of participants: compliance with established procedures is mandatory for all participants. Each participant is instructed to speak directly into a microphone, and extensive notes are taken by the clerk/reporter during the court proceedings to help with the identification of the participants.

To compare the centrally controlled ER installation in a building specifically wired for the system, containing courtrooms acoustically designed for electronic recordation, with the buildings housing the United States District Courts around the country is like comparing apples and oranges. There is no comparison, and is no justification for saying that a system that will work in a specifically-designed building will work in all others.

But the electronic recording machine and installation is like the tip of the iceberg; there is much, much more beneath the surface. The purpose of any reporting method, live reporters, ER, etc., is so that a verbatim transcript can be prepared, when required,

within a reasonable time, at a reasonable cost, and with absolute accuracy.

Therefore, the electronic recording must be transcribed by a human being -- a typist-transcriber. The Superior Court of the District of Columbia has produced no information on this subject, other than the information contained in its 1979 Annual Report, which shows that 39 live reporters produced 243,481 pages of transcript, or 6243 total pages per reporter; and that a total of only 11,002 pages were produced from the Court Memory System. As of December 31, 1979, there were 10 courtrooms equipped with the Baird ER system, so that an average of 1100 pages per year were produced in each of those 10 courtrooms. Can this be a cost-effective system?

However, we do have a transcript prepared from a tape recording made on a tape recorder furnished to a United States Magistrate by the Administrative Office, and we have the original tape cassettes which were made with the Lanier Advocate II four-track recording system. We are prepared to play the tapes for the Subcommittee now, or to its staff later, if that is preferred. We also have an affidavit from William J. O'Connor, Clerk of the United States District Court for the Southern District of Alabama, which states:

"The attached original transcript and recorded cassette tapes of a hearing before the Honorable David G. Bagwell, United States Magistrate for the Southern District of Alabama, in the Matter of: Carl Hall vs. Dr. J. B. Thomas, et al., being Civil Action Number 79-0074-P, are original documents and tapes filed in the office of the Clerk, United States District Court for the Southern District of Alabama, and constitute official records of the said Court."

The hearing was held on July 16, 1979. These tapes and the original transcript will be returned to the Clerk after this hearing has been concluded.

The transcript consists of 129 pages, including the certificate. On pages 1 through 39, there are 73 instances where the word "inaudible" appears in parenthesis. And from page 40 to page 46, inclusive, there are, in addition to many "inaudibles," parenthetical notations of a total of 23 minutes of "At this time the tape is inaudible for approximately ___ minutes."

We have taken the time to listen to the tapes and compare them to the transcript. And while the tape is, in fact, inaudible in most instances, there are many occasions where, by repeated playback, we have been able to fill in the "inaudible" notation. Also, in comparing the tapes against the transcript, we found many instances where the transcriber did not accurately type what was clearly on the tape, or left out many words which the typist probably thought were not material, or did not want to take the time to decipher.

Please remember that this transcript was produced from a multi-channel sound recording device, furnished by the Government to the United States Magistrate. Such Magistrates are now trying cases by designation that the District Judges would normally try. If your life, your reputation, or your financial future were involved, would you want your trial or hearing recorded and transcribed in this manner?

Because we think it is important to view the actual end product of an electronic recording device in use in the United States Courts today, we attach at this point pages 40 to 46, inclusive, of the aforementioned transcript.

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1 2 minutes.)
2 THE COURT:
3 Excuse me a minute. Who was this doctor?
4 MR. HALL:
5 (Inaudible)
6 THE COURT:
7 Dr. Sheppard is that the doctor --
8 MR. HALL:
9 (Inaudible)
10 THE COURT:
11 Okay.
12 MR. HALL
13 (At this time the tape is inaudible for approximately
14 2 minutes.)
15 MR. GIBBS:
16 I want to object to this because this does not appear
17 to be something that happened while he was a prisoner.
18 THE COURT:
19 (Inaudible) you mean?
20 MR. GIBBS:
21 Yes, sir.
22 THE COURT:
23 I am assume he is going into the piarhixia by way of
24 background for his present gum problems.
25 MR. HALL:

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1 (Inaudible.)
2 THE COURT:
3 This is something you told the dentist?
4 MR. HALL:
5 Yes.
6 THE COURT:
7 Go ahead. Excuse me, Mr. Hall.
8 MR. HALL:
9 (At this time the tape is inaudible for approximately
10 5 minutes.)
11 THE COURT:
12 Excuse me. Are you in segregation now did you say?
13 MR. HALL:
14 Right now?
15 THE COURT:
16 Yes, right now.
17 MR. HALL:
18 (Inaudible.)
19 THE COURT:
20 I see, yes.
21 MR. HALL:
22 (Inaudible.)
23 (Inaudible for approximately 3 minutes.)
24 THE COURT:
25 Excuse me a second before you go that far. I am

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1 having a little trouble hearing you. Did you tell me that you
2 can only get two books at a time while you are in segregation?
3 MR. HALL:
4 (inaudible.)
5 THE COURT:
6 Did I misunderstand you about that?
7 MR. HALL:
8 (Inaudible.)
9 THE COURT:
10 Mr. Gibbs, are we later on going to have the law
11 library -- librarian as a witness or anything?
12 MR. GIBBS:
13 (Inaudible.)
14 THE COURT:
15 All right, good. I was not sure that I heard you
16 correctly.
17 MR. HALL:
18 (Inaudible.)
19 THE COURT:
20 Three at a time? Okay. Excuse me for interrupting
21 you.
22 MR. HALL:
23 (At this time the tape is inaudible for approximately
24 4 minutes.)
25 THE COURT:

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1 Excuse me a second -- let me interrupt you. Does
2 anybody -- do you have a list, basically of what is in the law
3 library?
4 MR. GIBBS:
5 Yes, we have a list.
6 THE COURT:
7 Are you going to introduce it later? Okay, all right.
8 Excuse me for interrupting.
9 MR. HALL:
10 (At this time the tape is inaudible for approximately
11 2 minutes.)
12 THE COURT:
13 Sir? Yes.
14 Mr. Gibbs, do you want to see his list?
15 MR. GIBBS:
16 (Inaudible.)
17 MR. HALL:
18 (Inaudible.)
19 THE COURT:
20 Can I make a suggestion. How many medical witnesses
21 do you have?
22 MR. GIBBS:
23 Medical?
24 THE COURT:
25 Yes.

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1 MR. GIBBS:
2 (Inaudible) Dr. Thomas (inaudible).
3 THE COURT:
4 We might want to let Dr. Jackson just break this up
5 so he can be excused. I hate to keep him -- if we are going
6 to have testimony about the law library, I hate for him to
7 have to be waiting through that.
8 MR. GIBBS:
9 That's fine with me, if Mr. Hall's witnesses are
10 going to be on the law library.
11 THE COURT:
12 Yes. Mr. Hall, do you have any other witnesses on
13 your medical problems?
14 MR. HALL:
15 (Inaudible.)
16 THE COURT:
17 Yes, sure. Well, the thing to do -- maybe we can --
18 let's just go on through, I guess, don't you suppose?
19 MR. GIBBS:
20 I would be happy if you want to set it up like
21 try the medical issues and then try the other issues (inaudible).
22 THE COURT:
23 I don't know. How much -- about how long do you
24 want to talk about the law library? I'm not trying to cut you
25 short -- if your testimony about the law library is going to

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1 go fifteen or twenty more minutes. Okay. Well, let's just
2 go straight on through like we are going. I'm not trying to
3 cut you short. You say whatever you need to say.

4 MR. HALL:

(The tape is inaudible for approximately 2 minutes.)

6 MR. GIBBS:

7 Your Honor, I am going to object to any testimony
8 about (inaudible).

9 THE COURT:

10 We set the law library issue. He said something
11 in his complaint, as I recall, about some sort of Ku Klux
12 Klan activities in the law library, something like that. Let
13 me hear what that is about, briefly, just to see whether that
14 is included in what is set for trial. If you need to call
15 other witnesses on that if we decide that is an issue, I will
16 give you a chance to do that or we can set it for another day,
17 if we need to. Go ahead.

18 MR. HALL:

19 (At this time the tape is inaudible for approximately
20 2 minutes.)

21 THE COURT:

22 Can you tell me why the people in there told you not
23 to go in or what?

24 MR. HALL:

25 (Inaudible.)

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1 (At this time the tape is inaudible for approximately
2 1 minute.)

3 THE COURT:

4 That issue will not be tried today. You don't need
5 to worry about calling other witnesses. I did not mean to
6 include an issue like that in the law library issue for trial
7 today, okay? So you can limit yourself to the library, itself,
8 and its arrangement and things like that.

9 MR. HALL:

(Inaudible.)

11 THE COURT:

12 Okay, all right. Thank you. Excuse me.

14 CROSS EXAMINATION

15 BY MR. GIBBS:

16 Q Mr. Hall, you stated that the reason that you failed
17 to pick up the medication was because it made you sick to your
18 stomach?

19 A Yes.

20 Q Can you tell me when did it make you sick to your
21 stomach?

22 A (Inaudible.)

23 Q Had you ever had any stomach problems before -- other
24 than those connected with taking this medication?

25 A Not before, no, sir.

The Lord Chancellor's Department in London, England, issued a report in late 1979 entitled, "Report of the Study Group on Verbatim Reporting," in which there is recognition of the problems in transcribing electronic recordings. We attach paragraphs 91, 92, 93, and 115 of the report at this point, following these few very relevant quotes from the report:

91. "...such a machine cannot, on its own, ensure that the transcriber can always identify individual participants; it cannot ensure that they are sufficiently close to the microphone for their words to be understood; nor can it ensure that they speak clearly."

93 (ii) "Transcription from tape is slower than transcription from shorthand notes. It is difficult to estimate how much slower, because factors such as the quality of the recording and the log and the frequency of references to documents and authorities are important. But it is probably fair to say that it takes at least one-third more time, and often twice as much."

115. "...two crucial disadvantages would remain. Firstly, it has proved extremely difficult for the LCD to recruit suitably qualified audio-transcribers. Secondly, the evidence we have received has led us to the conclusion that the quality of transcripts obtained from audio recording, although acceptable, is inferior to that provided by shorthand writers."

EXCERPT PARAGRAPHS FROM THE LORD CHANCELLOR'S
DEPARTMENT IN LONDON, ENGLAND

91. There are no insuperable technical difficulties in ensuring that recordings are clearly audible. A number of audio recording systems have been developed specifically for use in court reporting, and they are being used successfully in many parts of the world. A multi-track machine can record each of the main participants on a separate track so that if more than one is speaking at any time, the transcriber can play each track separately to clarify what is being said. It is also possible--and desirable--to incorporate provision against over-recording or accidental erasure, an audio alarm to sound in the event of the machine failing (or failing to record at ade-

quate volume) and a voice compression feature which obviates the need for constant adjustments of microphone levels. But such a machine cannot, on its own, ensure that the transcriber can always identify individual participants; it cannot ensure that they are sufficiently close to the microphone for their words to be understood; nor can it ensure that they speak clearly.

92. A logger is therefore needed, both to monitor the recording and to identify participants when they appear for the first time. He should also keep a note of the spelling of proper names and of the points on the tape at which various events (such as legal submissions or the start of the examination of a new witness) occur.

93. There are four ways in which audio recording remains inherently inferior to notetakers.

(i) It is more difficult to replay part of the proceedings in court than for a notetaker to read back his notes, because it takes much longer to find the relevant part of the proceedings. Similarly, it would be extremely difficult to meet some of the very selective transcript orders now made by the CAO.

(ii) Transcription from tape is slower than transcription from shorthand notes. It is difficult to estimate how much slower, because factors such as the quality of the recording and the log and the frequency of references to documents and authorities are important. But it is probably fair to say that it takes at least one-third more time, and often twice as much.

(iii) A notetaker is immediately aware if a statement is unintelligible as he is unable to record it; he can, therefore, ask for the statement to be repeated.

(iv) If equipment malfunction is not noticed immediately, the record of that part of the proceedings is irretrievably lost.

115. We believe that it would be technically feasible to use audio recording to meet the Government's needs for verbatim records of proceedings, but for the reasons given in paragraphs 91 and 93 we do not think it would be desirable to do so. Calculations we have made suggest that the cost of using audio recording to meet the needs of the Crown Court would be much the same as the cost of using notetakers except where the duties of monitoring the recording and logging the proceedings could be performed by someone already required to be in court. But two crucial disadvantages would remain. Firstly, it has proved extremely difficult for the LCD to recruit suitably qualified audio-transcribers. Secondly, the evidence we have received has led us to the conclusion that the quality of transcripts obtained from audio recording, although acceptable, is inferior to that provided by shorthand writers. This is not a reflection on the ability or dedication of the audio-transcribers, nor is it purely a technical question of the quality of the recording. We think that one of the reasons for the difference in quality is that the notetaker has to record every word spoken and that this leads him to ask for the repetition of any inaudible part of the proceedings.

For twenty years people have been beating a path to Alaska to observe, study, analyze and investigate the electrical recording system utilized by the Alaska Court System, which most people have been led to believe is a "better mousetrap." The United States Court Reporters Association representatives and the National Short-

hand Reporters Association representatives have also traveled that beaten path that so many others have traveled. Many technological and financial analyses have been done by the reporters organizations and others.

The fact remains, however, that the final product leaves much to be desired. The Honorable Gerald J. VanHoomissen, Presiding Judge of the Superior Court of the State of Alaska in Fairbanks, wrote in 1979 to George Fathman, official court reporter in Tucson, Arizona, as follows:

"You asked whether we had electronic court reporting devices in this court system here in Alaska, and unfortunately, yes we do. I would give my right arm for you or Ted or another competent or qualified reporter in my court over the idiot box. Getting records out and transcripts of proceedings is an extremely slow proposition.

"As judge, you have to be extremely careful that everybody stays near a microphone, keeps their voice up, etc., etc. It just is not a satisfactory system as far as I'm concerned.

"Believe me, if you hear of any court system who wants to get rid of their live reporters and replace them with the electronic machines, you can certainly use my name as a person who has been exposed to both systems and has little or no love for the new modern devices."

A well-known trial lawyer in Anchorage, Alaska, Bernard P. Kelly, having practiced law there since 1970, a member of the International Academy of Trial Lawyers and member of the Board of Governors of the American Trial Lawyers Association, in response to an inquiry from USCRA President Gerald J. Popelka, responded on March 30, 1981, as follows:

"You asked that I write a letter to you, indicating my experience with the audio equipment utilized in Alaska Superior Courts. As you know, I have been a trial lawyer based in Oregon from 1954 to 1970. In Oregon we always utilized stenotype court reporters as a means of recording testimony.

"Since 1970 I have been in Alaska where the State courts - notably the Alaska Superior Courts - are the main trial courts for criminal and civil litigation and utilize an audio method of recording testimony. There is no court reporter present in court. There is a technician who monitors the machinery. If it is desired to have the testimony replayed, one has to go through a somewhat clumsy process of having the technician locate the appropriate

place to replay the testimony back to the jury. Where the audio system really breaks down is when it comes to developing a transcript for an appeal. Since the technician who monitors the equipment in court is merely a technician and not a reporter, that person is usually not even the one who is called upon to type up the eventual transcript. Also the caliber of the audio equipment on replay is anything but clear. There are many echos in it.

"I find, myself, even though I am intimately familiar with the technical features of the testimony that has been given in court, that I have a hard time listening to and understanding what has been said when the audio is played back. Also when several people are speaking in close proximity to each other, it is easy to confuse who is doing the talking or to even distinguish the words, whereas a court reporter would insist that the record be intelligible and that what was being said by one party or attorney could be distinguished from that of another. The audio cannot make those distinctions.

"On at least two occasions when I had several hundred thousand dollars riding on the outcome of an accurate appeal transcript, I can vouch for the fact that the quality of the transcript for the appeal was frighteningly inaccurate. It gave me great concern about whether we might have a reversal of the case merely because of the inaccuracies of the record.

"I can assure you that on any substantial case involving several hundred thousand dollars or more and where I can afford to do so because of the size of the case, that I am always going to use daily copy stenotype reporters just to avert what I regard to be a serious breakdown in the potential right of my client to a fair trial.

"I have never experienced similar problems to those I have outlined above with the stenotype reporting method. I consider the threat of the Federal system going to an audio system to be one that would be intolerable. You may use my views in any way that you see fit. I am a member of the International Academy of Trial Lawyers and am a member of the Board of Governors of the American Trial Lawyers Association."

Apparently, in the opinion of those judges and lawyers who have had extensive experience with electronic recording and transcripts therefrom, the opinions of Judge VanHoomissen and Attorney Kelly are widespread.

James A. Dixon, Jr., Esq., a partner in Dixon, Dixon, Nicklaus & Webb, Miami, Florida, takes a stand against ER in an article appearing in the Florida Bar Journal of January 1981, entitled "Electronic Recording Fails Test," which is quoted here:

Electronic recording, as a means of transcribing jury and nonjury trials and hearings, has once again failed to meet the test of accuracy that is so important in the preparation of transcripts for modern-day appeals.

Over the past several years, we have seen various plans put forward for the electronic and/or videotaping of trials and depositions, as a substitute for the stenographically-recorded transcript of testimony as prepared by a certified shorthand reporter. These plans are invariably advanced under the banner of the reduction of the cost of litigation. However, it has yet to be demonstrated by any competent authority that the electronic recording of litigated matters does, in fact, reduce the cost of litigation. Indeed all of the available evidence indicates to the contrary, and further indicates that the accuracy factor declines markedly where transcription of testimony is attempted without the benefit of a qualified court reporter present in the hearing room.

As of July 1, 1980, under the slogan of "saving money," the Division of Workers' Compensation ordered the deputy commissioners to purchase, operate and monitor tape recorders in their hearing rooms to maintain the record of the proceedings before them. Private counsel were not precluded from hiring their own professional shorthand reporters, but the official record was to be the transcript prepared by transcribers from the tape recording of the proceedings.

The results of this experiment are apparently in. On October 23, 1980, the Supreme Court of Florida, in the case of *In Re: Florida Workers' Compensation Rules of Procedure*, Case No. 57,707, adopted certain amendments to the Florida Workers' Compensation Rules of Procedure, effective January 1, 1981. These changes, which were prepared and recommended by the Workers' Compensation Rules Committee of The Florida Bar and the Workers' Compensation Section, contained the following change in Rule 18(a)(1), *Record on Appeal*:

(1) The Record on Appeal shall contain the claim, notice to controvert, pretrial order and stipulation, transcript of proceedings before the deputy, as taken by a certified court reporter at the expense of the Division and order on appeal. (The italicized language represents the new matter in the Rule.)

The comment provided by the committee, supporting this addition to Rule 18, is significant.

This change is intended to conform the rules to the legislative mandate (or comport with the legislative intent) set out in F.S. 440.29(2) which requires hearings before the Deputy Commissioner to be reported and authorizes the Division to contract for the reporting of the hearing. Current practice and procedure is apparently inconsistent with some districts employing court reporters and others not. The Rules Committee of the Workers' Compensation Section has been advised of several instances in which the Record on Appeal has been inadequate for purposes of deciding the appeal, resulting in some cases in irreparable damage and, in others, of unnecessary expense involving de novo proceedings.

This Florida experience is consistent with the experience of studies in other states. The Division of Workers' Compensation has, however, petitioned the Supreme Court to reconsider its October 23, 1980, order.

A recent opinion by Judge Robert B. Krupansky, United States District Court, Northern District of Ohio, in the case of *Williams and Trammel v. General Motors Corporation*, Civil Action Nos. C79-1434Y and C79-1890Y, has highlighted the fact that empirical studies have now cast serious doubt on the cost savings and level of accuracy of electronic recording methods.

Before the court was a motion by the plaintiffs in an action brought pursuant to §301 of the *Labor Management Relations Act*, 29 USC §185. The plaintiffs moved, pursuant to Rule 30(b)(4) of the Federal Rules of Civil Procedure, to take depositions by tape recorder in lieu of the usual stenographic methods.

Judge Krupansky noted that published case law in this area disclosed a variety of opinions regarding the application of Rule 30(b)(4). The court noted that those courts which have permitted the use of nonstenographic recording methods have uniformly premised such decisions upon the assumption, devoid of any factual evidence in support thereof, that electronic tape recording of testimony provides a cost savings over usual stenographic methods. The court found that the weight of evidence resulting from numerous courts' experience with electronic reporting methods suggests that nonstenographic reporting techniques do not result in total cost efficiency over traditional stenographic methods. Judge Krupansky noted:

Such a conclusion is reflected in the report of a nineteen-member committee appointed by a 1978 resolution of the Iowa Supreme Court to study *inter alia*, the costs associated with the use of electronic recording methods, in taking depositions and record in trial proceedings in the State of Iowa. Upon consideration of contemporary studies, discussions with manufacturers of electronic recording equipment and representatives of electronic reporting and stenographic services, the Iowa committee concluded that "there is no economy in the use of electronic reporting" methods. Iowa Cost of Litigation Study Report (1979).

The court went on to note the results of a study in the State of Alaska, in which all court proceedings are recorded exclusively on magnetic sound tape which constitutes the official record. The court stated:

Further support is contained in a 1978 report on electronic reporting in the State of Alaska, which provides comparative cost estimates for the fiscal year 1977 of \$14.50 per page using electronic recording methods versus \$10.85 and \$13.10 per page using traditional stenographic methods. A Financial Analysis of Electronic Reporting in Alaska (National Shorthand Reporters Association, 1980)

Judge Krupansky concluded:

Thus, this Court is constrained to agree with the Committee on Rules of Practice and Procedure of the Judicial Conference of the United States that claims with respect to the potential of electronic recording methods for reducing the costs of conducting depositions have not been yet demonstrated. Advisory Committee Note to the Proposed Amendment to Rule 30(b)(4) (February 12, 1979).

* * *

Errors in transcripts prepared from electronic recordings may be attributed to parties' responses which are inaudible to unintelligible due to background noise which the tape recorder, unlike the court reporter, does not filter out; and the misidentification of voices which may be confused or lost during excited exchanges or emotional colloquies.

A 1977 article by Professor Michael H. Graham of the University of Illinois entitled *Nonstenographic Recording of Depositions: The Empty Promise of Federal Rule 30(b)(4)*, 72 N.W.L. Rev. 566, discusses in detail the fallacies of the cost-accuracy trade-off. Based upon studies conducted in Los Angeles, Chicago and New York, Professor Graham, on the

CONTINUED

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subject of cost alone, concludes:

In summary, with respect to the saving of cost (the only expressed rationale in support of Rule 30(b)(4)), it appears that any out-of-pocket cost savings is at best minimal regardless of whether the deposition is eventually transcribed. If one were to consider in addition the time required to compare the typed transcript prepared by one adversary against the original tape to prepare and argue the motion for the order permitting the tape recording of the deposition, it becomes obvious why there are so few reported Rule 30(b)(4) decisions. Even assuming that procedures designed to provide adequate assurance of accuracy and trustworthiness are free of cost, it appears that tape recorded depositions, do not provide significant cost saving.

Professor Graham goes on to a comparison of the accuracy of the transcript prepared from the tape recording with that resulting from the stenographically recorded deposition. He cites the Report of the Committee to Evaluate Electronic Recording Techniques, appointed by the Appellate Division of the State of New York, which concluded that, "[T]ranscripts produced by court reporters were far more accurate than transcripts produced from the recording machines." Professor Graham pointed to the statistical evidence presented by the committee, which clearly supports this conclusion:

	Stenographic Reporters	Tape Recorders
Incorrect words added/omitted	654	1,883
Statements omitted	13	125
Wrong speaker identification	3	151

Professor Graham concludes that the practical result of the requirements of accuracy has been a proliferation of lists of detailed and expensive requirements. He states: "These requirements make the old stenographic method more attractive, because it is less trouble and, ironically, less expensive."

From the standpoint of the trial lawyer, the use of electronic recording as the official transcript of a trial is fraught with danger and virtually devoid of benefits. First and foremost, the conscientious trial attorney is vitally concerned with the availability of an accurate transcript of testimony in the event of an appeal. Much of the courtroom efforts of trial attorneys are directed to ensuring that whatever transcript is ultimately produced accurately reflects the proceedings and testimony heard by the court. Even with the most sophisticated electronic recording equipment available today, such accuracy is sorely lacking.

Even with multi-track recording equipment, the attorney becomes the prisoner of his microphone. Trial lawyers are not statutes. Of necessity, they must move about the courtroom arena, addressing the court, the witness and the jury. Voir dire examination of jurors is virtually impossible with electronic recording, as the tape cannot record the nod of a head of a prospective juror in response to a question. Jurors' verbal answers are frequently inaudible or so softly stated as to be unrecordable on the tape. When using electronic recording equipment, the attorneys and the court must take care to separate themselves so that their respective microphones do not pick up the voices of one another. The traditional "side-bar" conference, held in muted tones, that has become so popular as a time-saving device during trials, is a disaster with electronic recording equipment. Furthermore, a cough, the dropping of a pencil, the rustling of paper or other extraneous noises can completely obliterate vital words upon a tape, and the recording device has no means of notifying the court or counsel that it has not understood or accurately recorded the words in question.

The problems of transcription from even multi-track recording tape are many. The transcriber, working directly from the tape, will frequently misidentify the speaker. Cross-over voices will also confuse the identity of the speaker. And who cannot recall the efforts of the highly qualified and experienced transcribers in attempting to transcribe the Watergate tapes? There was not a single tape transcribed, even though presumably the finest equipment available was used in the Oval Office, that did not contain garbled conversations and inaudible language. Even with the use of the finest experts available in the field, there were many disputes between them as to the exact language used in various transcripts from the same tape. To say nothing of the possibility of equipment failure, power-source failure, or inadvertent or deliberate erasure of portions of the tape testimony.

These are but a few of the many problems inherent in the electronic recording of trials. While the legal profession should continue to explore any and all feasible means of reducing the cost of litigation, it does not appear at the present time, given the present state of the art, that the abandonment of the presence of a qualified court reporter, in the court or hearing room, is one means to this end.

To further illustrate the opinion of the trial lawyer as to the adequacy of sound recording in the courts, the following communication from the Association of Trial Lawyers of America (New Jersey chapter) was sent on November 20, 1980 to the Administrative Director of the New Jersey Courts:

"Dear Mr. Lipscher,

"We are hereby informing you of the following resolutions adopted by the New Jersey Affiliate of the Association of Trial Lawyers of America (ATLA-NJ).

"At the General Membership Meeting of ATLA-NJ held October 29, 1980, the membership passed a resolution to recommend to the Board of Governors that ATLA-NJ oppose the use of sound recording devices to replace certified shorthand reporters in our trial courts.

"At the November 12, 1980 meeting of the Board of Governors of ATLA-NJ, a resolution was adopted to advise the Administrative Director of the Courts that ATLA-NJ is in opposition to the use of recorded transcriptions rather than shorthand reporters."

One of the most recent and clearest decisions on the subject of cost-efficiency and accuracy of ER is found in an opinion of U. S. District Judge Krupansky in Williams vs. General Motors Corporation, and in Trammel vs. General Motors Corporation (Nos. C79-1434Y and C79-1890Y, Northern District of Ohio, 1980). Judge Krupansky's slip opinion discloses an exceptionally thorough investigation of all of the empirical studies on ER.

On page 4 Judge Krupansky stated:

"The weight of evidence resulting from numerous courts' experience with electronic recording methods suggest that non-stenographic recording techniques do not result in total cost efficiencies over traditional stenographic methods."

(Emphasis added.)

In discussing the accuracy of transcripts, the Court wrote at page 7:

"Errors in transcripts prepared from electronic recordings may be attributed to parties' responses which are inaudible,

or unintelligible due to background noise which the tape recorder, unlike the court reporter, does not filter out; and the misidentification of voices which may be confused or lost during excited exchanges or emotional colloquies. (Citations omitted). Despite the use of modern technology, the danger persists of 'Watergate infirmities' resulting in silent gaps in the proceeding.* (Citations omitted).

"Clearly, the nonstenographic recording of deposition testimony appears to be a false panacea."

WHY ARE TAPE RECORDINGS A POOR SUBSTITUTE FOR THE COURT REPORTER?

Why are tape recordings such a poor substitute for the court reporter? Because to perpetuate the spoken word in printed form -- the end purpose of reporting, after all -- requires the ability to discriminate sounds. The tape recorder does not have such ability; only the human ear possesses it. Man's ear and brain analyze, sort, amplify, accept or reject -- in other words, discriminate intelligently. Magnetic tape recorders have been improved to a substantial degree and are reasonably reliable for uses that are tightly controlled, such as at home, on radio, and on television; but the courtroom situation is quite different. There is nothing in those media to compare with the hurly-burly of a legal battle in the courtroom, wherein speech, despite rules, is free and untrammelled, often ragged, slurred and unclear, or highly technical, with extraneous noises impinging and foreign or regional accents common -- all calling for instant decision as to what was said.

Verbatim reporting is more indebted to comprehension grounded in knowledge and experience than can ever be realized by the lay observer. This fact has been scientifically fixed by Bell Telephone Laboratories.

"Many people think that only acoustic cues make speech recognition possible; we now see that they are just one among many other important cues. ...Knowledge of context can make the difference between understanding and not understanding a particular sound wave sequence...The listener, in recognizing speech, does not rely solely on information derived from the speech wave he receives. He also relies

on his knowledge of an intricate communication system subject to the rules of language and speech, and on cues provided by the subject matter and the identity of the speaker. ...No automatic device has been built that comes close to rivaling the ability of human beings to recognize and identify voices."

PROBLEMS OF INDISTINCT SOUND

The interposition of an electrical device between the spoken word in the courtroom and the heard word in the transcription room introduces a decisive adverse factor. It is a well-known principle of engineering that reliability is negatively affected by each device added to any system. Transcription from tapes after a trial is over results in the postponement of the decision as to what was actually said until the time of transcription, perhaps weeks or months later, in an entirely different environment, and by a typist who was not even present at the trial itself. All of these circumstances detract markedly from the ability of the transcriber to understand and thereby transcribe accurately each and every word -- be it slurred, whispered, technical, or a proper noun.

On November 1, 1978, a joint legislative-judicial committee of the State of Idaho compared court reporters and electrical recording equipment. The Committee's report is entitled "An Analysis of Replacing Court Reporters with Electronic Recording Equipment." The following is an excerpt from that Report:

"Idaho attorneys can be said generally to have experienced problems with electronically recorded transcripts in the magistrate division. Most would oppose replacing court reporters with electronic recording equipment in district court cases. Perhaps the most eloquent comment was received from an attorney in Lewiston:

"Somewhere along the line the decision has to be made whether we are interested in "cost cutting" or justice. There is nothing more important to a litigant than a complete, accurate, and readily available record, particularly in criminal matters. The taping system works well for the recordation of perfunctory matters such as traffic court, where the court advises the defendant of his rights, but other than that, its value is very limited.

"I would respectfully suggest that those pressing for "efficiency", which is synonymous with cost-cutting in the judicial system, might keep in mind that the practicing lawyer is an integral part of the judicial process and that proposed changes which increase the amount of time he spends on a particular case or cases directly affect the financial welfare of the client-citizen for whose benefit the costs were created. Clients' legal fees are high enough now so that any changes in the system ought to take consideration of that."

At this point, and in conclusion on the subject of electronic recording in the United States District Courts in place of a live reporter, we quote to you portions of letters from United States District Judges which were recently sent to Senator Dole and the members of the Subcommittee on Courts.

From the Hon. Shane Devine, District of New Hampshire:

"I have had the misfortune of becoming entangled in wires and the inadvertent problems relative to microphones, i.e., if counsel wishes to confer with client at counsel table while the opponent is examining, counsel should make sure that the microphone is off so that privileged communications are not recorded on the electronic system. In such circumstances, of course, counsel must make sure that the microphone is turned on once again when counsel desires to examine witnesses. If a tape is inserted improperly, or if the equipment is not properly recording the proceedings, it becomes difficult if not impossible for anyone short of an electronic wizard to monitor the proceedings. My colleague, Judge Loughlin, is forwarding to you copies of an actual case in New Hampshire where an entire trial was almost aborted because of the failure of an electronic recording system."

From the Hon. Walter L. Nixon, Jr., Southern District of Mississippi:

"In connection with your forthcoming hearings in the Senate Judiciary Subcommittee on Courts, I express herewith some views in regard to the possible elimination of the live court reporter in the courtrooms of the Federal District Courts.

"It has been our experience that any form of electronic recording system will not adequately replace the live reporter. Great delay, confusion and expense have been caused by the dependence on recording devices alone.

"If the expense of live reporters is a problem, it would appear that only a few mistrials, retrials, or insufficient

appeal records would also be a very large expense, to say nothing of justice delayed.

"The heavy work load in this district justifies a court reporter system as it now functions, allowing the reporter some time out of the courtroom in order to complete the transcripts."

From the Hon. David K. Winder, District of Utah:

"One proposal that appears to be under consideration is the use of tape recorders as a substitute for the court reporter. This method is presently in use in certain of the state courts of Utah and utilizes the Lanier II equipment which I understand is the highest state of the art. Virtually all who have been exposed to this system have been disappointed with the inadequacy and inaccuracy of the record this equipment produces. Other difficulties with the tape system are the lack of ability to conduct in chamber proceedings on the record and the limitations on counsel's freedom to move within the courtroom. There is also the possibility of equipment breakdown with, most seriously, the breakdown not being discovered immediately."

From the Hon. Sherman G. Finesilver, District of Colorado:

"I have been a judge for fifteen years on the state bench and ten years on the federal bench. I of course have had the opportunity of working with many court reporters over the years. I have found that the physical reporter is a much more accurate, adaptable and flexible vehicle than any other system.

"I have seen demonstrations on the use of electronic recording but having seen the skill with which the physical professional reporter works under constant pressure and time constraints, I do not believe that the demanding work a professional reporter accomplishes can be equalled or surpassed by any other system presently being considered.

"We must maintain the highest standard of making and preserving a permanent record of all court proceedings in an expeditious and accurate manner, and in order to accomplish this goal it requires the utilization of physical in court reporters.

"In fact, I believe there should be more inducements offered to the reporters for their service in order to obtain and retain the best qualified professional reporters."

From Hon. Patrick F. Kelly, District of Kansas:

"It would appear that your committee will consider some innovative methods in part intended to preempt the present function of the court reporter. I have had personal experience with the use of electronic tape recording, stenomask and voicewriting methods. These may have some benefit in an interrogation setting or perhaps an administrative type hearing, but have no place in a busy courtroom. My own experience is that it is in the reproduction of the record

where the problems begin. If accuracy and time are of importance, these concepts are for the birds."

From Hon. Martin F. Loughlin, District of New Hampshire:

"I am 100% opposed to changing the present system in any way whatsoever. While New Hampshire is a small state, recently in the case of Fitzgerald v. Sargent, 117 New Hampshire 104 decided in 1977, an untoward event happened. I am enclosing for your edification five copies of this decision. I believe that the first paragraph of the Per Curiam opinion succinctly sets forth what transpired. To reiterate, the New Hampshire Supreme Court stated. 'The major issue in this case is whether the defendant was so prejudiced by the omission from the record on appeal of the final ten minutes of the trial judge's charge to the jury, lost as a result of mechanical failure of a stenographic voice machine, as to be entitled to a new trial.'

"I have also worked with the electronic recording device due to illness of a stenographer and found them awkward, clumsy and frankly a hinder. Everybody, including the judge, was tied into a microphone. It is fundamental that the human ear hears better than a recorder. My stenographer has the aptitude of reading lips with a soft-spoken witness.

"My opinion is that when you have something that is working very well, why change it for something that has not been proven to work well in the past."

From the Hon. Prentice H. Marshall, Northern District of Illinois:

"Electronic sound recording without the presence of a reporter. As a lawyer I have tried some cases in courtrooms in which electronic recording equipment was used in lieu of a reporter. Without exception the transcript was inadequate. Voices were superimposed; voices were too low and thus inaudible. Without the human reporter to interrupt and ask the court to instruct the lawyers and witnesses to speak up, speak one at a time, etc., a complete transcript, in my judgment, cannot be obtained. And I say this even with modern multi-channel recording equipment.

"Virtually every good court reporter will use electronic equipment as a backup. But electronic equipment is not an adequate substitute for the human reporter."

From the Hon. James H. Meredith, Eastern District of Missouri:

"I have been trying lawsuits as a judge in the United States District Court for the past nineteen years and I believe that a good court reporter is essential to making the record from the district judge so that the appellate court can be fully advised of what went on below. There have been various experiments tried from time to time to

electronically record the proceedings in the courtroom. The problem with this procedure is that it is very difficult to identify what happens when the lawyers and/or witnesses get excited and more than one person talks at the same time. I know of nothing except a court reporter that will handle this problem. In addition to that, if we have electronic recording, someone will have to monitor and handle the tapes and my guess is that they will be about as expensive or more so than a court reporter."

From the Hon. Frank J. Battisti, Chief Judge, Northern District of Ohio:

"In many of our trials and hearings, requests for hourly, daily and expedited transcript by counsel are frequent. While electronic tape recording might insure a complete record and protect against delays resulting from unanticipated absence, I think it unwise to depend upon electronic tape recording to meet fully the demand for an effective, complete transcript of proceedings.

"My personal experiences with video and electronic tape recordings have bordered on disaster. Two such experiences occurred within the last couple of months. In one case, involving products liability, the video portion of the tape was inadvertently erased (we think by x-ray) and the quality and volume of the audio portion was erratic, at best. This recording was of one of the plaintiff's most important witnesses; certainly one without whom the plaintiff could not have proven his case. The other recent trial was of considerable national and international interest, and involved an effort to denaturalize a former Soviet citizen whom the government claimed had participated in the extermination of civilian populations by the Nazis during World War II. In this case, I am of the opinion that the use of standard depositions taken by court reporters would have been more efficient in every way, that is to say, time, clarity, facilitation of the use of interpreters, etc.

"The use of electronic recording of court proceedings without the presence of a reporter would place additional burdens on the court to make sure that two or more persons are not speaking simultaneously or, in the situation where a witness is difficult to understand, to have the witness repeat certain answers which might otherwise result in an 'inaudible' note in the trial transcript. Whatever savings might be realized by hiring both a person to monitor the ESR in the courtroom and the typists needed to transcribe the tapes would not, in my opinion, compare to the speed, efficiency, and accuracy of the transcripts presently prepared by our reporters."

From the Hon. James M. Burns, District of Oregon:

"Electronic recording would be even worse. To perpetuate the spoken word in printed form, in a courtroom atmosphere, requires the ability to discriminate sounds. In the pressure of a trial, it is impossible to completely eliminate overlapping sounds. Despite all the rules and

controls in the courtroom, speech is often ragged, slurred, unclear and sometimes highly technical with extraneous noises calling for an instantaneous decision by the court reporter as to what was actually said by the speaker. A court reporter can advise the judge if something is inaudible. A good court reporter does not have any inaudible or blank spots."

CONTRACT REPORTING SERVICES FOR THE DISTRICT COURTS

Another alternative method of reporting which may be considered by this Subcommittee is the utilization of contract reporting services for the District Courts.

Traditionally, the Official Court Reporter in the United States District Courts has been recognized as an integral arm and member of the "Court Family." There is name and face recognition as well as control over the qualifications of the official court reporter by the Court. The District Judge knows who the reporter will be on a daily basis.

The Official Reporter has a vested interest in the position. If the Official does not perform, he can be fired and lose his pension benefits, with no recourse to Civil Service appeal procedures. The Official Reporter serves at the pleasure of the Court as a whole.

The contract reporter only loses the rights of the contract for that year. If the contract reporter was disqualified, he or she could and would seek work in the reporting field the next day, with no monetary loss incurred.

Contract reporters will have a divided loyalty: the government on the one hand, and their private clients on the other. We submit their primary loyalty will be with their private deposition clients. Transcript requests from private clients will take preference. The Circuit Court of Appeals will be dependent on the contract reporter's "good faith" production of trial transcripts.

The Official Court Reporter is always in attendance at the courthouse if the Judge is in chambers.

If the contract reporter is to be available at a moment's notice, the reporter must be sitting in the courtroom, the government paying an attendance fee. If the Court has nothing scheduled, the reporter will be in his or her private office or on a deposition. The Court will have to await the reporter's attendance at court, thereby forcing the litigants to incur additional legal expense waiting for a court reporter.

Because a bidding system can and will not discriminate between small and large firms, a firm with many court reporters will send their younger and inexperienced reporters to court, leaving their experienced senior reporters for the more lucrative depositions. This will result in less qualified reporters in the District Courts, and different reporters on consecutive days. Also, with larger reporting agencies and firms, there is much greater turnover of staff personnel, which can present added difficulties in locating reporters at a future date when a trial record is ordered for appeal purposes, or for other post-trial use.

With the present system, there is a relatively low turnover rate and very little absence because of sickness, mainly because official reporters receive no sick pay. Consequently, there is much greater continuity in service.

Also, the Court has chosen the official reporter, and not an administrative contract officer who is more interested in saving \$100 per year than in reporter qualifications. And the Court knows the official reporter's qualifications from actual experience.

The United States District Court is recognized nationally to contain the finest, most qualified and efficient court reporters. This is so because of the salary paid to Official Court Reporters,

and the ability of the reporters to charge a fee approved by the Court to litigants.

Finally, on the subject of contract reporting services, we would submit some additional comments of the trial judges.

From the letter of the Hon. Prentice H. Marshall to the Chairman of this Subcommittee:

"Competitive bid contracting. The judiciary must maintain control over the court reporters. That control cannot be delegated to some bureaucratic office -- and I include the Administrative Office of the United States Courts and the General Accounting Office in that category. Nor can the responsibility be delegated to the head of some reporting agency by way of a competitive bid contract. During my days in the practice I had some experience with competitive bid contract reporting. Certain agencies in Cook County, Illinois contracted all of their 'free lance' needs to various large reporting agencies. Without exception their work was of the lowest quality in town, and they produced those rare instances of questionable integrity to which I referred earlier. At the risk of sounding egotistical -- I, as the presiding judge in the courtroom assigned to me, must be the only person to exercise control over the reporter. And, my control should be no more than to instruct the reporter to make a full and complete record of everything said in open court."

From the letter of the Hon. Shale Devine:

"Similarly, the suggestion that competitive bid contracts be used for staffing of the ranks of reporters in the court system is totally impractical. A recent competitive bid suggestion in this District for backup reporting resulted in the majority of competent reporters refusing to so bid because, as a leading member of their ranks pointed out to me, the proposed payment for their time was in this day and age totally inadequate."

FULL-TIME, FLAT SALARY, NO TRANSCRIPT FEES

In considering the feasibility of changing the status of Federal court reporters from a part-time status and all that implies, to that of a full-time, flat salaried employee, without the right to retain the emoluments of his office (the transcript fees being retained by the United States), the cost factor must first be weighed.

Such a change in status, USCRA asserts, would require, initially, a substantial increase in the size of the reporting staff, perhaps as much as doubling it, at an additional cost of \$18,600,000 per year.

Such a change would also entail the hiring by the Government of approximately two typist-transcribers per reporter, another additional cost of approximately \$24,000,000 per year.

Another cost factor would be that of supervisory personnel for the 2400-plus typists and the 1200-plus reporters. As an estimate, we submit that 180 supervisors would be required (one for every 20 employees), at an approximate per annum cost of \$5,400,000.

It would also be presumed that the Government would furnish all equipment, supplies and telephone services, at an approximate cost of something well over \$5,000,000 per annum.

Not to be forgotten in any cost analysis for a full-time, flat salaried employee basis are the supplemental staff and/or overtime arrangements to accommodate the needs for daily and/or hourly transcript services, which are frequently requested in many courts, as well as the costs to provide reporting and transcribing services for evening and weekend/holiday sessions, which are not uncommon.

The suggestion of making court reporters full-time, flat salaried employees, with the U. S. Treasury receiving all the revenues generated by transcript sales, is, at first blush, beguiling, particularly to statisticians "crunching" numbers with a view toward cost effectiveness.

Reporters are highly motivated, self-starting persons who undertook arduous training in order to undertake an even more arduous, specialized profession, one of the features of which is the opportunity to be well compensated for rising to heavy demands on their time

and energy. To put them on flat salary, no matter how high, will result in a loss of motivation, or incentive, if you will, with a consequent loss of production after the first bloom of a possibly higher salary wears off.

The lack of incentive caused by loss of transcript fees to the reporters would be mirrored in the transcribers if, as may be expected, they were also on a flat salary. If it is believed that there is a transcript-induced delay in appeals now, just wait until both the reporters and transcribers have their incentive to produce removed!

On this general subject, we would like to quote from several letters written to the Chairman of this Subcommittee by members of the Federal Judiciary who are in the daily trial arena, and who are in a position to offer a viewpoint from the perspective of the trial judge presiding over District Court proceedings:

First, from the Hon. Prentice H. Marshall, U. S. District Judge for the Northern District of Illinois:

"Change of compensation to flat salaries. Court reporting is a high skilled profession. Good court reporters are extraordinary people. Their integrity must be beyond question. In almost thirty years of practice, etc., I have encountered a couple of questionable ones. But in all candor I must say to you that I've had doubts about more judges and lawyers than I have court reporters.

"The concentration and dedication which they must bring to their task is, in my opinion, incomparable with others. They cannot permit their mind to wander. They cannot afford to have 'a bad day.' A judge or a lawyer can rectify their mistakes in the courtroom, or at least try to. A court reporter cannot.

"The relevance of all of this is that the court reporter's profession has grown up in a method of compensation of per diem (or salary) for attendance and added compensation for write-ups which, frequently must be done or dictated after the rest of us have gone home. Federal court reporting is the peak of the profession. We should be very cautious in changing the method of compensation at the peak of the profession. Economic considerations are always an incentive or disincentive. If the compensation for the peak job is modified in such a way as to provide no economic incentive for taking it, there is a great risk that the federal judici-

ary will no longer attract the top of this very necessary professional group."

Also, from the Hon. Patrick F. Kelly, U. S. District Judge for the District of Kansas:

"It is in the area of considering the full utilization of reporting personnel on a full time, flat salary basis, with fees going to the treasury of the United States, that I am most concerned. I am sure the fee for copies of the record serves as an incentive to a court reporter. If this is abolished and my reporter, by example, is relegated to an hourly employee so to speak, then I will lose a most valued asset. In this regard, using my reporter as an example, he is probably the most highly qualified within the district, selected by me from many applicants and screened by a panel whose judgment I highly respected. He is wholly loyal and dedicated to this court and I envision him serving with me throughout the course of my tenure. It is not unusual to request his presence as early as 8:00 A.M., to run through lunch hours or to stay on into the evening. Saturday sessions are not uncommon. It may be that I am running a busier court than is normally contemplated but such is a fact of life. Conversely, if I would be required to schedule hearings consistent with the hours of a federal employee so to speak, this court would bog down unnecessarily. Simply stated, the system works and hopefully your committee will not tinker with it unduly."

Additionally, from the Hon. Shane Devine, U. S. District Judge from the District of New Hampshire:

"I consider the suggestion that court reporters receive merely a flat salary and that all fees for transcripts be turned over to the Government to be somewhat short of ludicrous. Reporters of the caliber qualified to fulfill the Congressional mandate of the Speedy Trial Act, 18 U.S.C. Sec. 3161, et seq., can command as independent reporters handling legislative hearings and discovery depositions for private attorneys substantially more than they now receive in our system. Like the Courts who must write opinions on nights and weekends, they in turn must do their transcripts after the regular court hours, and I, for one, have no qualms about the fact that a hard-working reporter may under certain circumstances earn more than the trial judge with whom he regularly works. The arduous nature of the work and the intense concentration required warrant adequate compensation."

FULL UTILIZATION OF REPORTING PERSONNEL

The Hon. William E. Foley, Director of the Administrative Office of the United States Courts, in his prepared statement before the Subcommittee on Courts, Civil Liberties and the Administration

of Justice of the Committee of the Judiciary, U. S. House of Representatives, on Wednesday, May 6, 1981, said in part:

"...the General Accounting Office has been engaged in a study of court reporting services in the district courts for several months, and we expect a rather critical report -- one which concludes that reporters are not being fully utilized. I have no doubts that there will be recommendations for changes in the law...While we anticipate a critical report, we also welcome GAO's comments and any suggestions they may offer which will result in a more cost-effective and efficient service to the courts and the litigants..."

The United States Court Reporters Association also welcomes the comments and suggestions of the General Accounting Office, because as a responsible association we have similar objectives.

At the outset, however, we must point out that this Subcommittee is dealing with a reporter work force of only 600 some odd, not a large, unwieldy number, and that this is a relatively stable work group which has a lower than average turnover rate of personnel.

We firmly believe that any and all changes which may be found to be necessary to attain the objectives stated above can be most effectively accomplished within the limits of the present court reporting law, Title 28, United States Code, Sec. 753.

Full utilization of reporting personnel will, we believe, result in a more cost-effective and efficient service to the courts and the litigants. But, as we stated at the very beginning of this statement, whatever changes are necessary to achieve this commendable goal can and should be made administratively, rather than through a wholesale revision of a proven system of court reporting in the United States Courts.

For example, the Southern District of New York is often cited as the example par excellence of the "pooling" system. This is probably true, but there are other modified forms of pooling systems in use in District Courts which are functioning to the full satisfaction of the Court and the litigants.

However, the court reporting act need not be changed to accomplish pooling of reporters for more efficient use of their services. The District Courts now have the power to impose pooling arrangements wherever it is believed that substantial benefits would result from such an arrangement. We believe the Administrative Office, which makes numerous studies and analyses every year, could and should, properly, advise those District Courts where it believes pooling would be appropriate. The appointing Courts themselves, of course, have a statutory responsibility to supervise the reporters in the performance of their duties, including dealings with parties requesting transcripts, along with the Judicial Conference (Sec. 753(c), Title 28, U.S.C.)

However, we wish to point out that within the Federal court system, there are situations which range from rural one-judge districts, with extensive statewide travel, to mid-sized three to five judge districts, on up to metropolitan centers with as many as 30 judges, in addition to senior judges and magistrates.

In considering the imposition of a mandatory pooling system nationwide, the practicality of its application in the districts, considering the factors mentioned above, as well as all others, should be reviewed.

The Hon. Walter Jay Skinner, District Judge in Boston, Massachusetts, in a letter to Senator Dole dated June 4, 1981, had this to say about mandatory pooling:

"We have a modified pooling system that works very well. A reporter has a primary assignment to a particular judge, but may be reassigned where needed when that judge is not actually in court. This should not be made mandatory, because it depends on the size, business and physical location of the judges within a district. Bear in mind that the need for a court reporter can arise very unexpectedly when emergency hearings are required in either civil or criminal matters."

And from Chief Judge Frank J. Battisti, of the Northern District of Ohio:

"The court reporters assigned in Cleveland have handled all trials and other assignments most professionally. A pool system of reporters -- one of the first in America -- is utilized in this district and it has proven to be very effective over the years. I believe it to be as effective today as it was 20 years ago."

From Judge James H. Burns, District of Oregon:

"In Oregon, we employ the modified pool system. That system works well here and it will work in other areas where there are problems."

From the Board of Judges of the Southern District of Indiana, Indianapolis Division:

"That because of the geographic nature of the District and its outer divisions, the size of the reporting corps of the Court, the physical layout of the Indianapolis courthouse, and other factors, a reporter pooling system would not benefit the Court, the reporters, or the parties ordering transcript; that such pooling system would be likely to waste the time of the reporters and delay transcript production."

And in connection with any pooling system, we believe that a "chief reporter" concept should be utilized for the orderly administration of the equal distribution of the reporting and transcription duties of the reporters, as well as equalizing to the extent possible the transcript income among the reporters in any one district.

To be successfully utilized, the "chief reporter" must be given authority by the court, and his duties and responsibilities should be spelled out in a written document.

The Supreme Bench of the City of Baltimore, Maryland, has a Chief Reporter, and has set down in writing rules and regulations for the Chief Reporter as well as the reporters under the jurisdiction of the Chief Reporter. USCRA representatives have visited and talked with the Chief Reporter there, who states that she receives about a 20% increment over the base salary of the other reporters, and that she does reporting only in emergency situations, or to "keep her hand in."

We believe it is a document that should be incorporated in our statement at this point, and it immediately follows.

Effective: 9/1/78

COURT REPORTERS

In accordance with Rule 1224, the Administrative Judge shall appoint a Chief Court Reporter "to serve at his pleasure." The Chief Court Reporter should have been continuously employed by the Supreme Bench for a minimum of five years, with a good record of attendance, and have demonstrated the ability to deal with personnel, Judges, and the public in a tactful and efficient manner.

The Chief Court Reporter shall appoint a Deputy Chief Court Reporter to assist in the daily work as directed, and to assume full responsibility in the absence of the Chief Court Reporter. Both the Chief Reporter and the Deputy will perform their administrative duties, in addition to their regular Court assignments, under the general supervision of the Court Administrator.

In carrying out his or her duties, the Chief Court Reporter shall:

1. Transfer Court Reporters, on a temporary basis, from any Court to another Court, for the purpose of distributing fairly and equitably the total workload of all reporters. Such temporary assignments shall not affect the permanent assignment of Court Reporters under the existing policy of choice of assignment by seniority.

2. Assure adequate staffing of each Court, on a daily basis, by assigning available Reporters to substitute temporarily for any Reporter who is absent on authorized leave.

3. In addition to use of the designated "floaters," assign all available civil Reporters to substitute temporarily for Reporters regularly assigned to any part of the Criminal Court, if the Criminal Reporter has an appellate transcript backlog, and the available Civil Reporter does not. Backlog is defined as any transcript which cannot be filed within sixty days from date of notice.

4. Assign Court Reporters to any special sessions or meetings of the Supreme Bench for which stenographic records are required.

5. Provide for the prompt replacement of any Court Reporter who may resign or retire, by appropriate testing procedures, and submission of written recommendation regarding such replacement, through the Administrator of the Supreme Bench, to the Personnel Committee.

6. Arrange for the taking of authorized leave by way of vacation, personal and compensatory days, and sick leave. If a reporter is absent on unauthorized leave, the Chief Reporter may charge the absence to accrued personal or vacation days. If a reporter has no accumulated leave, the Chief Reporter may recommend to the Administrator that such leave be taken without pay.

7. Maintain daily attendance sheets showing assignment of Reporters, and promptly respond to inquiries from counsel attempting to ascertain the Reporter on a given date.

8. Exercise continuous supervision over the status of all appellate transcripts due by Reporters in both civil and criminal courts.

9. Notify the Administrative Office when transcript paper, stenographic paper, files, records, etc. should be reordered.

10. Respond to and attempt to resolve problems and complaints of Judges, attorneys and the public concerning conduct of Reporters.

All Court Reporters shall observe the following rules in performance of their duties.

1. When the Judge of the Court to which a Reporter is regularly assigned is absent for any reason, is temporarily transferred to preside in another Court, or when the trial assignment in the Reporter's permanent Court breaks down and there are no cases transferred to it for trial, that Reporter shall promptly notify the Chief Court Reporter or Deputy Chief Court Reporter that he or she is available for work. In furtherance of the duties outlined above, such available reporters shall be assigned to another Court if and as needed. If such available Reporter's services are not needed, he or she will remain available in his or her office until 4:00 P.M. and work on transcripts or perform any other normal duties, unless excused by the Chief Court Reporter or Deputy.

2. Reporters will observe as nearly as possible the normal work hours for all personnel of the Supreme Bench, which are from 8:30 A.M. to 4:30 P.M. each day the Courts are in session. However, because Court sessions frequently extend beyond 4:30, requiring Reporters to remain on duty, strict observance of the 8:30 A.M. time will not be required.

3. Each Court Reporter shall submit monthly reports to the Chief Court Reporter, on the prescribed form, which includes an itemized list of all appellate transcripts which are due in any appellate court, date of notice, estimated

completion date, and itemized list of cases completed during the prior month.

4. The Supreme Bench recognizes that there are times when Court Reporters must be absent from work because of genuine illness. However, the Chief Court Reporter is authorized to require medical evidence of any illness if, in his or her judgment, any Reporter may make unjustified use of sick leave privileges. Except in cases of prolonged illness, where an estimated time of return to work is known, Reporters who are ill must call in each day of their absence.

5. Reporters wishing to take personal or vacation leave must receive authorization from the Chief Court Reporter as far in advance as possible, so that arrangements may be made for a substitute. Unexpected absence of a Judge from the Court to which a Reporter is assigned does not permit the Reporter to absent himself or herself from the Courthouse without authorization, and may result in loss of accumulated leave time or salary.

6. Problems, complaints and suggestions should be discussed with the Chief Court Reporter. If satisfactory resolution cannot be accomplished, such matters will then be referred to the Court Administrator for further action.

APPROVED:

Robert L. Karwacki,
Administrative Judge

Selig Solomon,
Administrator

A further innovative procedure as far as the District Courts are concerned would be the adoption of a portion of the Magistrates Reform Act of 1979, Sec. 636, Title 28, U.S.C., which provides that reporters appointed under that act may be transferred for temporary

service in any district court of the judicial circuit of their appointment for reporting proceedings under the Magistrates Act, or for other reporting duties in such court.

As future appointments are made in the United States District Courts, a condition of appointment could be the possible transfer to another district court in the same judicial circuit for temporary service when there is an overload of work in that district, or when, for some reason, the reporter temporarily is not needed in the home district.

We have already discussed the use of notereaders for stenotype writers and computer-aided transcription as a means of expediting the production of transcripts.

Greater efficiency from a time-management standpoint will also come from the utilization of either the use of notereaders, to whom the reporters can give their notes for direct transcription; or, the ultimate utilization of the growing microcomputer technology, CAT, or computer-aided transcription, as was previously described in detail.

In connection with every other alternative method of reporting other than stenotype-notereading, or computer-aided transcription, you do not get beyond the second step of reporter-produced transcript; that is, where the reporter dictates his or her notes following the reporting of proceedings and has them transcribed by a typist-transcriber; or where the reporter types his own transcripts--production of the end product is still basically a manual operation.

We believe that there may well be other procedures which can be adopted administratively which will accomplish the objectives set forth by Director Foley in his House Subcommittee testimony. And we repeat that we do not believe it is necessary to create a new court reporting act to do this.

In conclusion on this subject, we would call the attention of the Subcommittee to two cases which speak of the responsibility of the court to supervise court reporters as a matter of routine administration in the District Courts.

In Hydramotive Manufacturing Corporation, et al, vs.

Securities and Exchange Commission, 355 F. 2nd, 179, at page 180 (10th Circuit, 1966), the Court, after citing Sec. 753(c), stated:

"The duty of supervising court reporters is one of routine administration in the District Courts, and is not dependent upon the court's jurisdiction in any particular case."

And in the case of Richard J. Martin vs. Charles E.

Wyzanski, Jr., and Francis J. Hunt, 191 F. Supp., 931, at page 934 (1961), the Court stated:

"It is a matter of common knowledge that the vast growth in the volume of Federal litigation over the years has carried with it the absolute necessity that Federal judges perform and discharge certain administrative duties incident to the proper functioning of the courts over and above presiding at trials."

With the addition of the Chief Reporter concept in those courts where it is appropriate, that Chief Reporter, under the direction and supervision of the appointing court, can ensure that full utilization of reporting personnel is achieved.

COMPLAINTS OF OVERCHARGING BY REPORTERS AND INCOMPETENCY OF REPORTERS

The United States Court Reporters Association does not have in its possession any information about individual reporters or groups of reporters who may have charged litigants more than the rates authorized by the Judicial Conference. However, the Administrative Office has Management Review teams which are constantly auditing the records of the reporters, and if those teams are doing their job properly and can substantiate their charges, it would be a simple matter to point out to the appointing court any instances of overcharging. Such appointing court, when confronted with the facts,

would undoubtedly take immediate action to correct the situation, even to the extent of dismissing the reporter or reporters, if warranted. As you are aware, the reporters are appointed to serve at the pleasure of the court, and do not have tenure in office.

As to incompetency of court reporters, the United States Court Reporters Association is aware of the fact that reporters who do not possess the qualifications for office as established by the Judicial Conference have been appointed to office. Such reporters have been appointed on a probationary basis, but we have found no instance where the Administrative Office has made any effort to determine whether the reporters have proved to be satisfactory or have attained the necessary qualifications in the meantime.

Indeed, USCRA is aware of some instances in which persons were appointed as official court reporters who possessed none of the qualifications spelled out by the Judicial Conference, but merely operated a tape recorder, this in complete defiance of the statute. The Administrative Office, to our knowledge, has not protested such appointments; and by its silence would appear to condone such appointments. We state that such appointments are contrary to law, and that action should be taken by the Judicial Conference and/or the Administrative Office to have such "reporters" removed from office.

USCRA worked for several years with the Administrative Office in establishing what has become known as the "Qualifications and Compensation Plan for Official Court Reporters in the United States District Courts." The Plan was enacted by the Judicial Conference in 1971. USCRA is proud of its part in establishing specific standards for appointment to office, and urges this Subcommittee to recommend to the proper agencies that the plan be strictly adhered to at all times.

ADMINISTRATIVE OFFICE STATISTICS

The Hon. William E. Foley, testifying before the House Subcommittee on Courts, Civil Liberties and the Administration of Justice on May 6, 1981, stated, "Although our studies are preliminary only, they indicate that, on the average, court reporters spend approximately 15 hours a week in court." Director Foley then went on to talk about the average pages of official transcripts per year and the average net income of reporters, as if there is a direct relationship between the hours in court per week, the average number of pages and the average net income. There is not such a direct relationship.

We are not addressing the subject of unusually large earnings by very few reporters because it is unrealistic to single out the rare exception. Indeed, the figures have no bearing on the overall system and the quality of services rendered. In order to earn very large transcript fees, there had to exist a set of circumstances, such as complicated and prolonged expedited daily copy in large anti-trust litigation, with large numbers of copies being ordered, which meant that the reporter and the supporting staff worked extremely long hours, and under great stress.

The average number of recording hours a week in court is derived from a compilation of all the figures supplied by every reporter four times a year on AO Forms 40A, "Attendance & Transcripts." It is not a question of the Director's staff inaccurately multiplying and dividing to obtain averages. Rather, the problem is that the average number of hours of recording is considered the total sum of official work performed by the reporter.

On October 7, 1980, the Administrative Office sent a letter to all official court reporters, United States District Courts, on the subject of Form AO 40A, Attendance & Transcripts, the third paragraph of which states:

"It has come to our attention that there is some confusion regarding item 1(a), Time Spent Recording Court Proceedings. The days of recording should include the days on which you or a substitute were required to be present at the courthouse or in chambers for a scheduled trial, hearing, or other official proceeding and were actually engaged in recording such proceedings, irrespective of the amount of time spent recording the proceedings, e.g. five minutes or five hours. If there is a scheduled trial and the case is settled after you have reported for duty, you may count that day as a day of attendance provided you were required to make a record of the settlement. If you are required to be in the courthouse on a standby basis and there is no scheduled trial, hearing, or official proceeding, you should not count that day as a day of attendance."

The United States Court Reporters Association immediately verbally protested this interpretation of a "day of attendance" and on December 2, 1980, by letter suggested that the appropriate language for Item 1(a), Time Spent Recording Court Proceedings, should read as follows:

"The days of recording should include the days on which you or a substitute were required to be in attendance at the courthouse or in chambers for a scheduled trial, hearing or other official proceeding, irrespective of the amount of time spent recording the proceedings, e.g., five minutes or five hours. If there is a scheduled trial and the case is settled after you have reported for duty, you may count that day as a day of attendance. If you are required to be in the courthouse on a standby basis, to be available for matters of an emergency nature or other anticipated proceedings, returns of verdicts by juries, etc., you should count that day as a day of attendance, although there may be no scheduled matter or actual reporting of a proceeding by you."

Nothing has come from the suggestion made by the Association. The directions from the Administrative Office, limiting days in attendance to days on which something was actually recorded, do not include those days standing by while juries are deliberating; reading back to juries sometimes for days at a time; waiting for court sessions to start; standing by while settlement negotiations go on in chambers and the reporter must be in chambers, just in case something has to be put on the record; being available when the court to which the reporter is assigned is on general or emergency duty; i.e., being on call to report whatever proceedings may be urgent

enough to require instant judicial attention; indeed, time spent preparing reports for the Administrative Office; checking court papers for spellings of names; checking briefs for citations of cases; checking the law books to ascertain that the quoted citations are correct; and, just as importantly, a reflection of some apportionment of transcript preparation time.

While it is true that court reporters are paid for transcripts beyond their salaries, all transcripts are for use in the judicial process, either in further proceedings in the District Court, or for appellate review. It would seem proper, therefore, that at least some of the preparation of transcript time should be counted as salaried time, since it is done for the ongoing work of the court.

Earlier in this Prepared Statement reference was made to the Parker-Tharp report of 1960. That report contained many statistics, and it particularly included statistics showing hours of reporting and pages of transcripts.

The report showed that in fiscal year 1959 the average number of hours of reporting per reporter was 628 hours, and that the average number of pages of original transcript prepared was 1284 per reporter.

For calendar year 1979, the last year as to which USCRA was provided with Attendance & Transcript figures for all United States Court Reporters, the national average number of recording hours per reporter was 780, an increase of over 24% in number of hours spent recording, according to Administrative Office criteria.

And for calendar year 1979, again, the national average total number of pages produced per reporter was 9,517, an increase of over 641% in the average number of pages produced per reporter in the twenty years intervening since 1959. Surely, this is an indication

of the increased workload in the United States District Courts, as well as an indication that the reporters in those courts are spending more time somewhere producing 641% more pages of transcript on the average than they did in 1959.

In fact, during calendar year 1979, the official court reporters in the United States District Courts produced a total of 3,996,738 pages of original transcript, of which 1,368,054 pages were either daily copy or expedited copy, representing approximately 1/3 of the total number of pages of transcript produced; the balance, or ordinary copy, representing 2/3 of the total number of pages produced.

Parenthetically, it should be borne in mind that transcripts are ordered by judges and attorneys -- not court reporters, so the court reporters cannot control the number of pages ordered or produced.

We hope the distinguished members of this Subcommittee will understand that court reporting is a quality profession, and that USCRA believes that this is where the emphasis should be laid -- not on quantity and statistics. When a competent court reporter is sitting in front of the witness stand taking cross-examination at top speeds, sometimes on esoteric matter, he or she may expend more brainpower and energy in an hour or two than an office worker would in a week.

In heavy litigation, with talented litigators, the court reporter is in the trenches -- make no mistake about it -- and this is difficult to appreciate unless one has had extensive trial experience or been involved in shorthand writing or stenotype.

There is an artistry involved in the work of the court reporter as well as a highly developed skill which encompasses ear,

brain and hand coordination, fortified by a solid education, seasoned by experience and continuing education programs.

CURRENT TRANSCRIPT RATE STRUCTURE

The current transcript rate structure came about as a result of a resolution adopted by the United States Court Reporters Association on July 31, 1978, at its 33rd Annual Convention, which requested the Judicial Conference to authorize an increase in maximum transcript rates, which rates had not been increased at that time since September 1975, although the Consumer Price Index for the United States had increased .2793% in the intervening five years.

On May 30, 1979, as a result of a survey of the official court reporters of the United States District Courts and an analysis of the Administrative Office survey of state courts, USCRA submitted to the Hon. William E. Foley, Director of the Administrative Office, a position paper entitled, "Justification by United States Court Reporters Association for Increased Transcript Rates." The position paper of USCRA established that total transcript production costs from 1975 to that date had increased .4045%. The request was for an increase in the ordinary and daily delivery transcript rates as follows:

Ordinary delivery, from \$1.50 to \$2.10 per page.

Daily delivery, from \$2.50 to \$3.50 per page, with corresponding percentage increases in the price of copies.

The Subcommittee on Supporting Personnel of the Judicial Conference met on June 19, 1979, at which time no action was taken on USCRA's request, but the Administrative Office was directed to make another survey of transcripts of official proceedings at rates other than for "ordinary" delivery.

On October 29, 1979, USCRA submitted to the Subcommittee on Supporting Personnel through Director William E. Foley a 49 page document analyzing the report of the Administrative Office survey, and again renewing its request for an increase in the maximum allowable transcript rates, asking for favorable action of the Subcommittee at its December 1979 meeting.

As a result of all of the surveys and counter-surveys, the Judicial Conference of the United States at its March 5-7, 1980 meeting established new maximum allowable rates per page for transcripts as follows:

MAXIMUM TRANSCRIPT RATES
AUTHORIZED BY THE
UNITED STATES JUDICIAL CONFERENCE

MARCH 1980

	<u>Original</u>	<u>First Copy to Each Party</u>	<u>Each Additional Copy to the Same Party</u>
<u>Ordinary Transcript</u>			
A transcript to be delivered within thirty (30) calendar days after receipt of an order.	\$2.00	\$.50	\$.25
<u>Expedited Transcript</u>			
A transcript to be delivered within seven (7) calendar days after receipt of an order.	2.50	.50	.25
<u>Daily Transcript</u>			
A transcript to be delivered following adjournment and prior to the normal opening hour of the court on the following morning whether or not it actually be a court day.	3.00	.50	.25
<u>Hourly Transcript</u>			
A transcript of proceedings ordered under unusual circumstances to be delivered within two (2) hours.....	3.50	.50	.25

NOTE: Official court reporters shall not charge a fee for any copy of a transcript delivered to the Clerk for the records of court. (28 U.S.C. 753(f)).

Despite a Petition for Reconsideration submitted to Director Foley and the Subcommittee on Supporting Personnel on May 23, 1980, asking that the Judicial Conference reconsider and rescind the rates established for Daily Transcripts and Hourly Transcripts by the Judicial Conference at its March 1980 meeting, the rates remain in effect, except for some action by the Judicial Conference at its March 1981 meeting. USCRA understands, although it has seen no formal bulletin from the Administrative Office to that effect, that the Judicial Conference authorized an increase of 20% over the authorized rates, as to each category of page rate, if the Chief Judge of the district could substantiate the need for the increase, on a case-by-case basis; and that reporters might also charge counsel, with the approval of the Court, for the necessary travel and lodging costs of personnel brought in from another location to work on daily or hourly delivery transcripts.

The root of the problem with the current transcript rate structure is the arbitrary "ceiling" placed on the Daily and Hourly Transcript Rates. Reporters contend that they cannot render the service for those two types of delivery at the rates prescribed by the Judicial Conference.

The United States Court Reporters Association believes that the Judicial Conference has usurped the statutory responsibility of the District Courts by fixing maximum transcript rates, and then saying to the District Courts, "You may approve any rate not to exceed our maximum authorized rates."

The legislative history of Public Law 222, which was passed by the 78th Congress in 1944 (now 28 U.S.C., Sec. 753), clearly states in the report of the House Committee on the Judiciary to H. R. 3611, as well as in other hearings and reports, "In addition to salaries, reporters may receive fees for transcripts, to be paid

them by those desiring the transcripts, at rates to be fixed by the district courts, subject to the approval of the conference."

The Court Reporters Act still contains the same language, that the rates are to be fixed by the district courts, subject to the approval of the Judicial Conference, in Sec. 753(f).

And as early as September 1944, after the passage of P. L. 222, but before its implementation with funding in July 1945, the Judicial Conference adopted the following resolution:

"Resolved: That in the opinion of the Conference it is not practicable to fix a limitation on the amounts which reporters may earn from transcripts; that as reporters are required by statute to make in detail reports of their earnings, transcript rates should be adjusted in each District from time to time, with a view to reducing the cost of litigation to as great an extent as possible while allowing a fair compensation to reporters for the work required of them."

A complete review of the legislative history and a study of the history of court reporting in the District Courts prior to 1937, and the post-1937 Supreme Court Rule 80(b) leads fairly to the conclusion that the Conference of Senior Circuit Judges, the Administrative Office of the United States, and the framers of the legislation intended that the District Courts should, in the first instance, prescribe the transcript rates to be charged in the various districts, and that these rates would be adjusted from time to time.

The passage of P. L. 222 in 1944 (Sec. 753, Title 28 U.S.C.), therefore, imposed a statutory duty upon the District Courts to prescribe the transcript rates, subject only to the approval of the Judicial Conference.

While it is undisputed that eventually the Judicial Conference has the final approval authority over any rates prescribed by the District Courts, the manifest Congressional intent was that the rates would vary from district to district, and that the rates would be adjusted from time to time by the District Courts, because the Judges

of the District Courts are best able to make their decisions based on locally prevailing economic conditions and practices.

For example, the cost of living in Houston, Texas, is recognized by the government in its per diem rate structure to be a high cost designated area, and the per diem rate is set accordingly. However, there are many other areas where the cost of living is substantially less than that in Houston or other metropolitan areas. It is for this reason that the United States Court Reporters Association asserts that any alleged problems of overcharging, or excessive rates, would be eliminated if the District Courts were permitted to exercise their statutory responsibility in accordance with prevailing economic conditions.

The United States Court Reporters Association has been given to understand by Administrative Office and General Accounting Office personnel that perhaps their recommendation for a new court reporters bill would contain a provision that the Judicial Conference be given complete flexibility to determine whether to install in any particular district court (a) electronic recording equipment, (b) contract reporters, (c) full-time, flat salaried reporters without the right to transcript fees, or (d) to permit the present system of court reporting to remain in a certain district or districts.

We believe passage of such a bill would be a great mistake, would cause chaos in the Federal reporting system, would be unworkable, and would be subject to immediate appeal from attorneys who believe their clients are being deprived of equal protection under the law if they are forced to accept transcripts from a tape recording, for example, or from a contract reporter whose qualifications are non-existent or suspect.

We urge this Subcommittee not to give serious consideration to any such proposal, if it is made.

In conclusion, we wish to thank the Chairman for permitting us to appear on behalf of the United States Court Reporters Association and to present this lengthy Prepared Statement. We are available to answer any questions you may have or to provide any other material which you might wish. Thank you very much.

Enclosures.

EXHIBIT 1

UNITED STATES COURT REPORTERS ASSOCIATION

GERALD J. POPELKA
President



800 U. S. Courthouse
Seattle, WA 98104
(206) 425-9252

May 21, 1981

LEGISLATIVE ALERT

TO: ALL UNITED STATES DISTRICT JUDGES.

SUBJECT: OVERSIGHT HEARINGS BY SENATE JUDICIARY SUBCOMMITTEE ON COURTS,
JUNE 15, 1981

Senator Robert J. Dole, Chairman of the Senate Judiciary Subcommittee on Courts, has announced that on Monday, June 15, 1981, his Subcommittee will hold an oversight hearing into the court reporting system in the United States District Courts.

Virginia A. Goddard, Counsel for the Subcommittee who is setting up the hearing and arranging for witnesses, has informed USCRA that the Subcommittee is interested in learning about alternative methods of reporting, such as electronic tape recording, stenomask and voicewriting methods; computer-aided transcription; full utilization of reporting personnel; advisability of putting reporters on a full-time, flat salaried basis, with transcript fees going to the Treasury of the United States; reviewing the current transcript rate structure; inquiring about alleged complaints of overcharging by reporters and incompetency of reporters; the possible use of competitive bid contracting for reportorial services for the District Courts; effective management of reporter personnel by mandatory pooling systems; this in an effort to determine the pros and cons of the problems alleged to exist in the present system, and to find ways and means to make it easier and less expensive for litigants to obtain transcripts, all with a view to determining the necessity of introducing a new court reporters bill.

At the same time, the General Accounting Office of the United States has for many months been conducting audits of reporters in about ten district courts throughout the United States. And USCRA has been informed that the GAO is preparing to recommend changes in 28 U.S.C. Sec. 753 to provide for one or all of the following:

Electronic sound recording of court proceedings without the presence of a reporter; competitive bid contracting; full-time flat salaried reporters, with transcript fees going to the Treasury of the United States.

The GAO provided the Administrative Office on May 1, 1981, with a "sneak preview" of their findings and possible recommendations, although USCRA has not had that privilege extended to it.

And on May 6, 1981, the Hon. William E. Foley, Director of the Administrative Office, testifying before the Subcommittee on Courts, Civil Liberties and the Administration of Justice of the House Committee on the Judiciary, stated, in part:

"I have no doubt there will be recommendations for changes in the law to provide alternatives to the present system--including greater use of electronic recording equipment. While we anticipate a critical report, we also welcome GAO's comments and any suggestions they may offer which will result in a more cost-effective and efficient service to the courts and the litigants.

"The current reporting system was established by the Congress in 1944--37 years ago....The legislation enacted in 1944 was probably adequate in 1944. Conditions have obviously changed, and we now must recognize that and move to meet the needs of the judicial system in the 1980's and 1990's.

"We plan to conduct experimental programs utilizing electronic sound recording equipment and computers to determine whether they are, in fact, viable alternatives to shorthand or stenotype reporting....This subcommittee, however, may wish to consider the need for reform in the 1944 law. The Judicial Conference and the Administrative Office will provide whatever assistance we are able to provide if you do choose to evaluate the problem."

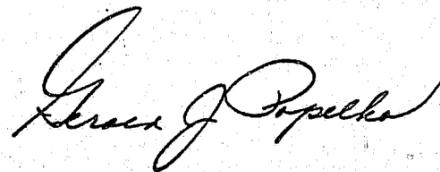
Because the United States District Judges have a built-in, justifiable interest in any proposed changes in the present court reporting law, USCRA inquired whether Senator Dole would like to hear the views of the District Judges about the present court reporting system and possible changes in the statute and the system. USCRA was advised that Senator Dole and the other members of his Subcommittee would be very much interested in hearing from the judges before whom the trials and proceedings involving court reporters are held.

If you are inclined to write to Senator Dole and/or the other members of the Subcommittee, it is important that such letters reach Senator Dole before June 15, 1981, the date of the hearing.

Senator Dole's address is: Hon. Robert J. Dole
2213 Dirksen Senate Office Building
Washington, D.C. 20510.

The other members of the Subcommittee on Courts are: Hon. Strom Thurmond, S.C., Hon. Alan K. Simpson, Wyoming, Hon. John P. East, N.C., Hon. Max S. Baucus, Montana, and Hon. Howell Heflin, Alabama.

Respectfully submitted,



President

GJP:nbs

EXHIBIT 2-A

DECISION



THE COMPTROLLER GENERAL
OF THE UNITED STATES
WASHINGTON, D.C. 20548

FILE: B-185484

DATE: May 25, 1977

MATTER OF: Computer-aided transcription program in
the Federal Courts

- DIGEST: 1. Court reporters selected to participate in Federal Judicial Center's computer-aided transcription pilot project may receive fees for transcripts processed during project, in which equipment and supplies are furnished to reporters without cost to them, notwithstanding provision in 28 U.S.C. § 753(e) that reporters furnish supplies at their own expense. Center's pilot project is a research and development effort, clearly within its statutory authority, to test feasibility of computer-aided transcription system. Court reporters' participation is essential to project, and allowing retention of transcript fees may be considered necessary incentive for their participation. B-185484, May 21, 1976, distinguished.
2. If computer-aided transcription system is implemented by Federal courts, necessary equipment and supplies may be furnished to court reporters on full cost reimbursement basis, so as to satisfy provision in 28 U.S.C. § 753(e) that reporters furnish supplies at their own expense. Compare B-185484, May 21, 1976.
3. Court reporters may also be permitted reimbursable use of computer system furnished by Federal courts for their private work.
4. Court reporters must provide reimbursement for use of court-furnished computer system to prepare transcripts even though some transcripts are required to be furnished to court free of charge. Cf., 55 Comp. Gen. 1172.

The Director of the Federal Judicial Center (Center) requests our opinion on whether the Center can continue to use appropriated funds to complete its "Computer-Aided Transcription Research Project." Specifically, the Center asks whether funds can be spent on the project and still preserve the franchise of each participating official Federal court reporter to collect fees for transcripts prepared as part of the research project in light of our unpublished decision B-185484, May 21, 1976, which held that court reporters in the Superior Court of the District of Columbia could not collect transcription fees under a proposed computer-aided transcription project.

In a later submission, the Administrative Office of the United States Courts (Administrative Office), which would have operational

responsibility of the computer-aided transcription program if it is found to be feasible to establish it on a court-wide basis, recognizes the potential problems concerning B-185484, *supra*, and has formally requested that our decision to the Federal Judicial Center address the legality of implementing the program on a court-wide basis.

A computer-aided transcription program requires court reporters to record court proceedings on special stenographic machines equipped with magnetic tape cartridges. The cartridges are then inserted into a computer terminal to be located in the court, which transmits the reporter's notes by telephone lines to a central computer operated by a commercial contractor. The central computer translates the notes into printed form via a copyrighted computer program and transmits the "first run" transcript back to the terminal to be edited by the reporter on a display screen. After corrections are made, the terminal prints out the final transcript ready for delivery.

Our decision, B-185484, May 21, 1976, to the Executive Officer of the District of Columbia Superior Court involved a similar computer-aided transcription program and concerned the right of court reporters of the Superior Court, under the District of Columbia Code, to profit from the sale of transcripts of proceedings held before that Court. That decision held that the furnishing of all necessary equipment by a court reporter at his own expense is a prerequisite to a court reporter's right to profit from the sale of transcripts. Although the decision involved exclusively the interpretation of a statute applicable only to the Superior Court, 11 D.C. Code § 1727(b)(1973), the discussion makes reference to parallel language in the United States Code which governs court reporting practices in the Federal court system: the so-called Court Reporters Act, 28 U.S.C. § 753 (1970).

The Federal court reporting system established by 28 U.S.C. § 753, *supra*, is unique with regard to the compensation of Federal employees. Section 753 provides that for each Federal judicial district one or more official salaried court reporters shall be appointed. These reporters are officers and employees of the court and their work is under the supervisory control of the judiciary. They are compensated by a yearly salary for attending and recording official proceedings, preparing transcripts for judges, and filing copies of transcripts with the clerk of court. However, unlike other Federal employees, the official court reporter is allowed by statute to be an independent entrepreneur, deriving a substantial part of his income from the sale of transcripts to litigants. It is because of this latter status that the Act also requires that the reporter must furnish all of his own supplies. The following are the pertinent provisions of 28 U.S.C. § 753, *supra*:

"(b) One of the reporters appointed for each such court shall attend at each session of the court and at every other proceeding designated by rule or order of the court or by one of the judges, and shall record verbatim by shorthand or by mechanical means which may be augmented by electronic sound recording subject to regulations promulgated by the Judicial Conference:
* * *

* * * * *

"* * * Upon the request of any party to any proceeding which has been so recorded who has agreed to pay the fee therefor, or of a judge of the court, the reporter shall promptly transcribe the original records of the requested parts of the proceedings and attach to

the transcript his official certificate, and deliver the same to the party or judge making the request.

"The reporter shall promptly deliver to the clerk for the records of the court a certified copy of any transcript so made.

* * * * *

"(c) The reporters shall be subject to the supervision of the appointing court and the Judicial Conference in the performance of their duties, including dealings with parties requesting transcripts.

* * * * *

"(e) Each reporter shall receive an annual salary to be fixed from time to time by the Judicial Conference of the United States. All supplies shall be furnished by the reporter at his own expense.

"(f) Each reporter may charge and collect fees for transcripts requested by the parties, including the United States at rates prescribed by the court subject to the approval of the Judicial Conference.
* * *" (Emphasis added.)

A. The Federal Judicial Center's Pilot Project

The Center's research project has been divided into two phases. Under the completed first phase, reporters selected at random from six judicial districts were provided with an electronic stenotype transcriber and three days of training at the commercial contractor's training facility in Virginia. The reporters were also supplied with magnetic tape cassettes. The first 200 pages of transcription on the program were paid by the Center and a subsidy was paid for the next 600 pages of transcript to cover the costs to the reporter for the commercial contractor's processing fees. The transcriber was then assigned to another selected reporter after three months time.

Under the proposed second phase, the Center will make a computer terminal available to each selected judicial district to give the selected reporters direct access to the main computer, thereby eliminating the sending of the cartridges by mail to Virginia and the mailing of the transcripts back to the reporter. Under this phase, the Center will lease from the contractor, and give the reporters temporary access to, all necessary equipment, including the scope terminals and tape stenotype machines. The Center will also furnish the reporters with processing services and telecommunication lines.

A problem arises because of the language of 28 U.S.C. § 753(e), *supra*, which states that all supplies needed by the reporter to produce court transcripts must "be furnished by the reporter at his own expense." As mentioned above, under the second phase of the Center's Project, all necessary equipment and supplies will be supplied to the reporters by the Center free of charge. However, the Director of the Center takes the position that 28 U.S.C. § 753(e) does not apply to the instant pilot project. His letter to us states in part:

"Public Law 90-219 established the Federal Judicial Center on December 20, 1967. Section 620 of Title 28 describes the functions of the Center and Section 623,

Title 28 states the duties of the Board. Without quoting verbatim the foregoing statutory provisions, it is clear that research, education and training, innovations and systems development and, generally, anything promoting the improvement of court operation, all fall within the purposes and duties of the Center. * * *

"The position of the Federal Judicial Center is quite different from that of the Executive Officer of the District of Columbia Courts. The Center's only goals are research and development, and continuing education and training, and it does not propose to enter the operational field. It certainly would not, within the meaning of 28 U.S.C. § 753(e), be furnishing 'supplies' to official reporters who would participate in the Center's research program, by allowing them temporary access to Center-acquired data computer equipment. The Center will retain title and possession of any hardware as well as related software, and is not in any event empowered to furnish 'supplies' since this is a function of the Administrative Office of the United States Courts (28 U.S.C. § 604(a)(10)). The Center will retain ownership and possession of the equipment used until, at such time in the future, the project might become operational. At that point, our research and development mission would be phased out. Admittedly at that time, the problem presented in B-185484 would be confronted by the Administrative Office which would assume operational responsibility. (I understand that the Administrative Office does intend to write to you on this matter in the near future.)

"It is not, however, intended in the Center's present limited research program that those reporters participating in the program will be able to use the Center's hardware for private purposes, except to the extent that the production of official transcripts will enable these reporters, utilizing their own 'supplies,' to duplicate the original transcript for distribution to parties, etc. (as is customarily done by reporters everywhere).

"The issue is whether the Center is furnishing 'supplies' by giving reporter-participants a mere temporary access to computers in carrying out an essential, statutorily mandated research project under strict controls."

We cannot accept the assertion that the Center's pilot project does not, at least in a functional sense, involve furnishing supplies to court reporters. In fact, the basic holding of our prior decision in the District of Columbia Superior Court matter was that the very similar arrangement proposed there would result in furnishing supplies to court reporters, so as to preclude the reporters from receiving their normal transcript fees under the analogous D.C. Code provision. Nevertheless, we do agree that 28 U.S.C. § 753(e) need not constitute a bar to continuation of the instant research project in view of the Center's overriding statutory research and development authorities.

As the Director indicates, the Center has a broad mandate "to further the development and adoption of improved judicial administration in the courts of the United States." 28 U.S.C. § 620(a). Its specific functions, as set forth in 28 U.S.C. § 620(b), include the following:

"(1) to conduct research and study of the operation of the courts of the United States * * *;

"(2) to develop and present for consideration by the Judicial Conference of the United States recommendations for improvement of the administration and management of the courts of the United States; [and]

"(3) to stimulate, create, develop, and conduct programs of continuing education and training for personnel of the judicial branch of the Government * * *."

Of even more specific relevance to the instant matter, the Board which supervises and directs the activities of the Federal Judicial Center is mandated by 28 U.S.C. § 623(a)(5) to--

"study and determine ways in which automatic data processing and systems procedures may be applied to the administration of the courts of the United States * * *."

The Senate Judiciary Committee report on the legislation enacted as Pub. L. No. 90-219 observed with respect to the above-quoted provision:

"Paragraph (5) of proposed section 623(a) contains the most specific of the Board's duties: evaluation of proposals for the application of data processing and systems techniques to the administration of the Federal courts. The computer revolution, sweeping the financial and industrial enterprises of our Nation, has thus far made little headway in the courts. Claims of unprecedented efficiency for the courts in the age of the computer, on the one hand, and fears of 'mechanized justice' and 'trial by computer,' on the other, have been voiced in various circles, but it is apparent to your committee that an objective evaluation of the potential of data processing systems in the work of the courts is a necessity. By its very nature as a center for the study of court administration, the Federal Judicial Center is an appropriate medium for such an evaluation." S. Rep. No. 781, 90th Cong., 1st Sess. 19 (1967); see also, Additional Statements of Reps. McCallock and McClory. H. Rep. No. 351, 90th Cong., 1st Sess. 23-27 (1967).

The Senate report also emphasized the distinction between the research and development functions of the Center and the operational role of the Administrative Office:

"Although the Federal Judicial Center is properly located within that branch of Government with primary responsibility for the administration of justice in the courts of the United States, your committee specifically rejects establishment of the Center within, or as a constituent bureau of, the Administrative Office of the U.S. Courts. The purpose and functions of the Center are not akin to those of the Administrative Office. The latter is charged by chapter 41 of title 28, United States Code, with recordkeeping, budgeting, statistics gathering, salary and fringe benefit administration, and other so-called housekeeping functions for the Federal courts. It is the 'operations' arm of the judicial branch. The Federal Judicial Center, on the other hand, is to be the 'research and development' arm of the judiciary, responsible for furthering the develop-

ment of improved techniques of administration in the courts of the United States. The roles of these two units in the administration of the courts, although undeniably related, are not essentially congruent." Id. at 14.

The Center's computer-aided transcription research project is clearly a proper exercise of its duties and functions as envisioned by Congress. Moreover, we are aware that the success of the project depends on the cooperation of the court reporters; and that the reporters require some incentives to participate in a project which, if successful, may ultimately serve to reduce their income. CF., the testimony of the Director of the Center in Hearings before a Subcommittee of the House Appropriations Committee on Departments of State, Justice, and Commerce, the Judiciary, and Related Agencies Appropriations for 1976 (Part 1), 94th Cong., 1st Sess., at 406.

In view of the foregoing, we are satisfied that permitting court reporters to retain fees for transcripts produced under the experimental projects is a necessary incident to the successful conduct of the research project, and that the Center's research and development authorities provide adequate support for this practice.

B. Implementation of an Operational Computer-aided Transcription System.

If the Center's pilot project demonstrates that a computer-aided transcription program is feasible and the Judicial Conference approves its use on a court-wide basis, the Administrative Office will be faced with the task of implementation. The research and development mission would be phased out, and as distinguished from the pilot project under which each court reporter operates independently, each court reporter would have to look to the Administrative Office or some commercial service bureau for processing the output of a magnetic tape stenotype machine into hard copy. Court reporters would require new stenotype machines of the magnetic tape variety and expendable supplies of magnetic tape. The magnetic tape would be required to be filed with the clerk of court.

We believe that the providing of such materials by the Administrative Office in an operational context for use by the official court reporters without cost to them would be contrary to 28 U.S.C. § 753(e). B-185484, supra; cf. Texas City Tort Claims v. United States, 188 F.2d 900 (5th Cir. 1951).

Following the issuance of our previous decision in the District of Columbia case, the Committee on the Budget in its September 1976 report to the Judicial Conference recommended that the Administrative Office explore with this Office possible alternative methods of implementing the computer-aided transcription program. Accordingly, the Director of the Administrative Office has proposed a plan to implement the program. The Director's letter to us describes this plan in relation to our prior decision as follows:

"Under the proposed plan in the Superior Court for the District of Columbia, court reporters would have been charged only for the use of the system, i.e., a processing charge. The rates to have been established would not have recovered the cost of the initial investment in the equipment. Your decision concluded that the effect would be to furnish the equipment to participating court reporters free of cost, and at least for that reason the plan was objectionable.

"In contemplating a plan for Federal district courts, however, another option appears to be available. The Administrative Office could provide the processing service to court reporters on a reimbursable basis, at rates established to recover all costs of the system, including depreciation, amortization, repair, operation, and telecommunications. CF. 31 U.S.C. § 483a. Under this proposal, the system would be financed from appropriated funds and all revenues received would be required to be deposited to the General Fund of the Treasury. See 31 U.S.C. §§ 483a, 484. The establishment of rates at levels sufficient to recover all costs and the collection of such fees from court reporters would mean that court reporters still would be bearing the full financial responsibility for all aspects of transcript preparation and sale. Each court reporter would remain responsible for the provision of a magnetic tape stenotype machine and the necessary magnetic tapes. Training would continue to be provided by the Federal Judicial Center. 28 U.S.C. § 620(b)(3). It is anticipated that the Administrative Office might award requirements-type contracts for the magnetic tape stenotype machines and magnetic tapes to minimize costs to court reporters.

"Alternatively, the Administrative Office could provide the magnetic tape stenotype machine to the court reporter, and recover the cost thereof over the life of the machine through periodic payments from the court reporter. Such payments also would be deposited to the General Fund of the Treasury."

The Director specifically requests our opinion on the following questions with respect to this proposal:

"1. Are the appropriations to the Judiciary available to the Director of the Administrative Office for obligation and disbursement in the establishment of this computer assisted transcription program under present law?

"2. Would the establishment of a computer assisted transcription program as outlined above, including as a key element the fixing of charges at levels to recover all costs, satisfy the objections interposed to the plan of the Superior Court of the District of Columbia?

"3. Would the use of the service by court reporters in preparing transcript as part of their private reporting work be objectionable?

"4. May the service be provided to court reporters without charge for their work in preparing transcript for the court for which they receive no transcript fees?"

With reference to the first question, the Administrative Office certainly has authority to establish a computer-assisted transcription program. See, e.g., 28 U.S.C. §§ 604(a)(1), (8), and (10) (1970 & Supp. V, 1975). Apart from the comments hereafter as to the effect of 28 U.S.C. § 753, our response to the first question is, of course, concerned only with the basic authority for the program as such. We do not expressly or implicitly address the mechanics of its implementation.

With reference to the second question, our prior decision reasoned that under the D.C. Code provision, which is analogous to 28 F.C.J. § 753, the obligation of court reporters to furnish supplies at their own expense represents a quid pro quo for their retention of transcript fees. Thus our basic objection to the Superior Court proposal was that reporters would continue to receive transcript fees without assuming the full cost of the computer-aided system.

The Administrative Office's plan would require that the reporters who use the program reimburse the Government for the full cost of providing the service. This would be done by setting the rates for use of the Government service (i.e., the terminal, rental of computer time, necessary software and telecommunications), at a level which would cover the entire cost of the equipment, including depreciation, amortization, repair and operation, plus rentals for computer time and related software. The reporters would still be required to purchase their own stenotype machine, magnetic tapes and other supplies. In the alternative, the Administrative Office would purchase the magnetic tape stenotype machines and, in effect, sell them to the reporters. This satisfies the requirement that the reporters must furnish all necessary supplies, at their own expense. Under these circumstances, we would have no objection to their retention of transcript fees. Accordingly, question 2 is answered in the affirmative.

The Administrative Office's third question is whether the official court reporters could use the computer-aided transcription system in providing transcripts as part of their private reporting work. As we understand the program, the Administrative Office would charge the same rates for processing transcripts made in a private context as the rate applicable to processing official court transcripts. The system would be provided to the reporters in their capacity as independent contractors and not as employees of the court. We have no objection to use of the system for private reporting work on a reimbursable basis, as proposed, provided that such use does not interfere with the processing of official court transcripts.

The final question is whether the computer system can be provided to court reporters without charge for their work in preparing the transcripts which they are required to provide for the court free of charge. The answer is in the negative. In a somewhat similar matter, we have followed the reasoning of the Texas City Tort Claims v. United States, supra, which held that the Court Reporters Act contemplates that such duties as preparing transcripts for judges and filing copies of transcripts with the clerk represent the reporters' statutory duties for which they are duly compensated by their yearly salary. Therefore, supplying the transcription service to a reporter without charge for producing this copy would be contrary to the intent of the Court Reporters Act. Cf. 55 Comp. Gen. 1172, 1176 (1976).


Deputy Comptroller General
of the United States

EXHIBIT 2-B

ADMINISTRATIVE OFFICE OF THE
UNITED STATES COURTS
SUPREME COURT BUILDING
WASHINGTON, D.C. 20544

ROWLAND F. KIRKS
DIRECTOR
WILLIAM E. FOLEY
DEPUTY DIRECTOR

January 11, 1977

Honorable Elmer B. Staats
Comptroller General of the
United States
General Accounting Office
441 G Street, N.W.
Washington, D. C. 20548

Re: File Number B-185484

Dear Mr. Staats:

On May 21, 1976, you rendered a decision, over the signature of the Deputy Comptroller General of the United States, to the Executive Officer of the District of Columbia Superior Court concerning the right of court reporters of the Superior Court, under the District of Columbia Code, to profit from the sale of transcript of proceedings held before that judicial body. For purposes of this letter, the decision can be summarized as holding that the furnishing of all necessary equipment by a court reporter at his own expense is a prerequisite to the court reporter's right to profit from the sale of transcript. Although the decision involved exclusively the interpretation of a statute applicable only to the Superior Court, the discussion makes reference to parallel language in the statute of general application to United States District Courts, 28 U.S.C. §753.

By letter of July 26, 1976, the Honorable Walter E. Hoffman, Director of the Federal Judicial Center, requested your decision concerning the legality of the continuation of the Center's computer assisted transcription research project in light of your May 21 decision. Judge Hoffman was concerned especially with preserving the right of each participating court reporter to collect fees for transcript prepared as part of the research project. Under that research project, the Center leases necessary equipment, including magnetic tape stenotype machines and scope terminals, and furnishes processing services and telecommunications. The goal of the Center, of course, is to determine the feasibility of the implementation of an operational computer assisted transcription program on a court-wide basis. The implementation of an operational program would be the responsibility of the Administrative Office.

The purpose of this letter is to apprise you of the views and position of the Administrative Office, with the goal of obtaining a decision from you which will address all aspects of the problem of the sufficiency of statutory authority to implement a computer assisted transcription program. I am writing to you today in response to the recommendation of the Committee on the Budget in its

September 1976 report to the Judicial Conference of the United States that the Director of the Administrative Office explore with the Comptroller General the alternatives which may be available. The recommendation of the Committee was prompted by your decision of May 21 and the knowledge that the Judiciary had included in its budget and had justified to Congress funds for this program. Congress ultimately did appropriate monies for this specific purpose which are available for the current fiscal year. The Administrative Office had envisaged procuring the necessary equipment as property of the United States which would be made available for the use of court reporters.

Assuming the Center determines computer assisted transcription to be feasible, the Administrative Office will be faced with the task of implementation. As distinguished from the current system under which each court reporter operates independently, each court reporter would have to look to the Administrative Office or some commercial service bureau for processing of the magnetic tape output of a magnetic tape stenotype machine to produce hard copy. Court reporters would require new stenotype machines of the magnetic tape variety, and expendable supplies, which would be the magnetic tape instead of paper tape. The magnetic tape would be required to be filed with the clerk of court. 28 U.S.C. §753(b).

I believe that the authority of 28 U.S.C. §753(b) to record court proceedings "by mechanical means" is broad enough to comprehend recordation in a magnetic tape medium. My concern is with 28 U.S.C. §753(e) which provides in relevant part that, "All supplies shall be furnished by the reporter at his own expense." Your decision apparently adopts the position that the furnishing of supplies is a *quid pro quo* for the retention of transcript fees. B-185484 at 3 (May 21, 1976). See also *Texas City Tort Claims v. United States*, 188 F.2d 900, 901 (5th Cir. 1951); B-184875 (June 11, 1976).

It has been the longstanding position of the Administrative Office that court reporters must furnish all of the equipment necessary for both recording and transcribing, and all of the expendable supplies necessary to the use of that equipment. Furthermore, if a court reporter avails himself of the option of filing an electronic sound recording in lieu of a transcript in certain circumstances as enumerated in 28 U.S.C. §753(b), he must provide that equipment as well as the necessary recording tape.

Notwithstanding this position, the Administrative Office has provided and continues to provide minimal office space to each court reporter in the courthouse of the court which he serves. The allocated space has been limited to use by the court reporter only, and not by any of his employees if any; and for use in the conduct of official Government business only. Also, while Federal buildings were under the control of the Post Office Department and the Public Buildings Administration, each court reporter was provided with minimal office furniture for the Government-provided space, subject to the same condition that the furniture was restricted to use while engaged in work arising from official duties only. These actions have been based upon an administrative determination by the Director of the Administrative Office that such practices were necessary in the interest of the United States. However, while occupying such space, each court reporter is responsible for providing telephone

service at personal expense. See Report of the Judicial Conference of Senior Circuit Judges 9 (1945).

Under the proposed plan in the Superior Court for the District of Columbia, court reporters would have been charged only for the use of the system, i.e., a processing charge. The rates to have been established would not have recovered the cost of the initial investment in the equipment. Your decision concluded that the effect would be to furnish the equipment to participating court reporters free of cost, and at least for that reason the plan was objectionable.

In contemplating a plan for Federal district courts, however, another option appears to be available. The Administrative Office could provide the processing service to court reporters on a reimbursable basis, at rates established to recover all costs of the system, including depreciation, amortization, repair, operation, and telecommunications. Cf. 31 U.S.C. §483a. Under this proposal, the system would be financed from appropriated funds and all revenues received would be required to be deposited to the General Fund of the Treasury. See 31 U.S.C. §§483a, 484. The establishment of rates at levels sufficient to recover all costs and the collection of such fees from court reporters would mean that court reporters still would be bearing the full financial responsibility for all aspects of transcript preparation and sale. Each court reporter would remain responsible for the provision of a magnetic tape stenotype machine and the necessary magnetic tapes. Training would continue to be provided by the Federal Judicial Center. 28 U.S.C. §620(b)(3). It is anticipated that the Administrative Office might award requirements-type contracts for the magnetic tape stenotype machines and magnetic tapes to minimize costs to court reporters.

Alternatively, the Administrative Office could provide the magnetic tape stenotype machine to the court reporter, and recover the cost thereof over the life of the machine through periodic payments from the court reporter. Such payments also would be deposited to the General Fund of the Treasury.

In contemplating such a plan, the Administrative Office is conscious of the fact that court reporters wear two hats: one as a Federal employee, and one as an entrepreneur/independent contractor. See B-185484 at 3 (May 21, 1976). For his service as a Federal employee, the court reporter receives a salary payable by the Director of the Administrative Office in an amount established by the Judicial Conference. 28 U.S.C. §§604, 753(e). For his service as an entrepreneur/independent contractor, the court reporter receives fees from the parties (including the United States) and from appropriations available to pay for transcript for persons proceeding *in forma pauperis* or pursuant to the Criminal Justice Act of 1964, as amended (18 U.S.C. §3006A). 28 U.S.C. §753(f). He also may engage in private reporting work for which he would receive attendance fees and transcript fees. Transcript fees paid by the United States do not constitute wages, but do constitute income from a trade or business, includible in computing net earnings from self-employment for purposes of the tax on self-employment income. Rev. Rul. 58-360, 1958-2 C.B. 423.

If the computer assisted transcription program is initiated, it necessarily follows that court reporters would

have to use the same system in preparing transcript for their reporting services performed in a private context. The same processing charges applicable to official transcript would be applicable to this work. However, before undertaking this program, the Administrative Office will ensure that the provision of this service on a reimbursable basis will not alter the court reporter's status as an independent contractor in preparing official transcript, and will not convert transcript fees derived from such work into wages paid by the United States. If the fees were converted into wages, there would be attendant tax consequences and possible additional problems in respect of contributions and computations for other benefits for employees provided pursuant to Title 5, United States Code.

One further observation is in order. The necessary processing services required for this program may be provided directly by the Administrative Office, through a computer center established and operated by Federal employees, or by a private vendor under contract with the Administrative Office, if the service be available commercially. In respect of this determination, it is the established policy of the Administrative Office to comply with the spirit of OMB Circular A-76, and especially with the proposed guidelines for application of that circular to ADP requirements. Of course the need would be satisfied by a Government operation if a satisfactory commercial source were not available or if procurement from a commercial source would result in higher costs. From this perspective, it is important to note that it may be necessary for the Administrative Office to provide the service directly in order that uniform rates might be established throughout the country to maintain uniform transcript fees in all courts, notwithstanding the variable cost of providing the service to courts, especially as a consequence of telecommunications expenses. If necessary, the Judicial Conference can adjust the fee schedule to insure court reporters an adequate return for their work. 28 U.S.C. §753(f). The Federal Judiciary is concerned with controlling the cost of transcript, not only to minimize expenses of litigation but also because of the substantial expense to the United States for transcript, as a party and in payment for transcript for indigent defendants.

In conclusion, I ask that you address the following questions in your consideration of this case:

1. Are the appropriations to the Judiciary available to the Director of the Administrative Office for obligation and disbursement in the establishment of this computer assisted transcription program under present law?

2. Would the establishment of a computer assisted transcription program as outlined above, including as a key element the fixing of charges at levels to recover all costs, satisfy the objections interposed to the plan of the Superior Court of the District of Columbia?

3. Would the use of the service by court reporters in preparing trans-

cript as part of their private reporting work be objectionable?

4. May the service be provided to court reporters without charge for their work in preparing transcript for the court for which they receive no transcript fees?

Members of my office stand ready to provide any additional information you may require.

Sincerely,

cc: Honorable Walter E. Hoffman
Mr. Paul G. Dembling

EXHIBIT 3

WILFRIED D. KRAMER, CLERK
 ROBERT LUSTON, CHIEF DEPUTY
 MARY-LOUISE KING, DEPUTY
 SUSAN WHITEACRE
 D. BRUCE SORDENBROCK

OFFICE OF THE CLERK
Court of Appeal

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THIRD APPELLATE DISTRICT
 STATE OF CALIFORNIA
 SUPPLEMENTAL
REPORT ON THE PILOT PROGRAM FOR PREPARATION
OF COMPUTER-AIDED REPORTER'S TRANSCRIPTS
ON APPEAL

April 16, 1981

Reference is made to my previous report dated April 20, 1979. This supplemental report will deal primarily with our continued experience in use of computer-aided transcription since that date.

Delay in completion of reporter's transcripts on appeal is an important factor in the total problem of appellate court delay. Solution of the problem requires the cooperation of court reporters and administrators, funding for acquisition of improved equipment, and appellate court administrative control to assure timely completion of transcripts.

Our interest in computer-aided transcription began many years ago with a presentation of the Philadelphia C.A.T. Program at a meeting of the National Conference of Appellate Court Clerks. While I recognized the possible advantages of a computer-aided system, there were several obstacles to overcome before such a program could become a reality. They were:

- (1) Determining who should take the responsibility in starting such a computer-aided system.
- (2) Interesting reporters in the possible advantages.
- (3) Obtaining the necessary space and personnel to operate the equipment; and
- (4) Obtaining funds to purchase and lease the necessary equipment.

Trial court administrators, clerks and judges are more interested in trial court needs than in expediting reporter's transcripts on appeal. Official court reporters can not afford to take the financial risk of starting a computer-aided transcription system, even if they are interested in doing so. It is for these reasons that we, as a State Appellate Court, became involved in setting up a computer-aided transcription center to assist reporters in improving their skills and reducing transcript delay.

Our initial investment came from a saving that we had achieved in our regular budget. The funds were used for the purchase of 6 Baron Data Processors for approximately \$15,000.00 and installation of the computer equipment on a 5-year lease. Our purpose was to permit official reporters to have an opportunity to use the new equipment and determine its advantages without having to assume a large risk of capital. It was anticipated that revenue from the official reporters eventually would reimburse the State for its initial purchase and continuing monthly lease expenditures. The details of the first year's experience are more fully described in my report of April 20, 1979.

After the first year, the San Joaquin County reporters who had been part of our original Sacramento project realized the advantages of computer-aided transcription and requested the court's assistance in establishing their own computer-aided transcription center. The court agreed to bear the initial costs of installation and entered into the 5-year lease contract with Baron Data, Inc. In turn, the San Joaquin reporters signed an agreement with the court providing for full reimbursement to the court for all expenditures in the lease as well as rental payments on the court-owned Data Processors.

There are now 8 reporters in San Joaquin County using the system. They are producing approximately 5,000 pages of reporter's transcript per month. Each reporter does his own editing at the scoping station. This has resulted in a highly efficient and profitable operation. While it is difficult to accurately measure transcript delay, such delay has been substantially reduced in San Joaquin County.

In a recent experimental test, the reporters in San Joaquin County were able to produce 35 pages of completed final reporter's transcript in just 31 minutes after taking testimony. A reporter using a conventional stenograph system would have required 6 to 7 hours to complete the same 35 pages.

Expansion of the Pilot Program to Include Reporters
Residing in Remote Areas

While the operation of the San Joaquin reporters is an unqualified success and demonstrates the advantages of State assistance to help official reporters in getting started, its use is limited to reporters residing in the immediate area of the computer center. In April of 1979, we expanded the existing program in Sacramento to include additional reporters residing at great distances from our computer center. Since these reporters could not have direct access to the computer equipment, it was essential to have a scope operator to manage the work and operate the center. We have reporters from Yreka, Redding, Oroville and Placerville as well as State Hearing Reporters and State Personnel Board reporters from other parts of the State on this second system.

Operating at long range is not as efficient as the operation in San Joaquin County where reporters have direct access and edit their own copy. The additional salary of the scope operator raises the per page costs accordingly. Sending the material through the mail involves delay and cost. The corrections must be made twice, first by the reporter on the proof copy and, secondly, by the scope operator at the screen. This takes considerably more time than where the reporter's do their own editing directly.

Problems of Initial Start-Up

A common problem for beginning reporters is that their initial efforts in usage of the new equipment are time consuming. While they can dictate 20 pages per hour by conventional methods, they may, at first, only be producing 4-6 pages per hour by computer. An already overworked reporter may feel that he cannot afford to take the additional initial time to build his dictionary and therefore revert to the conventional method of transcript preparation. This increases the time it takes for the reporter to become proficient in use of the new equipment and may cause him to become discouraged. It would be helpful if reporters were provided with temporary reduction in workload during this transition period while they are building their new skills.

Another problem that we have experienced in our Sacramento center is lack of sufficient volume. We are billed for 2,000 pages per month at 50 centers per page. If we produce less than 2,000 pages, our per page cost rises accordingly. If new reporters find themselves overworked and unable to take the time to build their individual computer dictionaries promptly, they may revert to the old method of dictation

and may become discouraged in use of the computer. This reduces the number of pages we receive and increases our costs accordingly. This problem can be resolved if the reporter's time in court can be reduced during the initial training and dictionary building period so that he can quickly build his dictionary and become proficient in use of the new computer equipment.

Atlas Stations

In an effort to increase our volume in Sacramento and permit the reporters at remote locations to do their own editing, we have acquired 2 Baron Atlas Stations which have been placed with the reporters in Oroville and Redding. The reporters continue to send us their tapes of the hearings. The tapes are translated at our computer center and placed on a floppy disk. The floppy disk is then mailed to the reporters for editing at their own Atlas editing stations. This reduces the time for the editing process and helps the reporter build his dictionary. A third Baron Atlas station is now being acquired by the State Personnel Board reporters. It is hoped that this new equipment will increase our volume and enhance the cost effectiveness of the program. We are informed that in the near future, the information on the tapes of hearings can be transmitted by telecommunication from remote stations to our computer center and, after translation, back to the various Atlas stations for editing and printing. It is too early to determine whether the new equipment will increase our volume sufficiently to assure the cost effectiveness that has been experienced in the San Joaquin Reporters' Computer-Aided Transcription Center.

Conclusions

1. Computer-aided transcription of reporter's transcript is very efficient and cost effective when the reporters are able to do their own editing at their own central station.
2. Initial establishment of computer-aided transcription centers for official reporters is dependent upon financial assistance from government sources. Once established, these transcription centers can become efficient and cost effective while reducing delay in preparation of reporter's transcripts.
3. Success of a computer-aided transcription center is dependent on the cooperation and enthusiasm of the individual reporters and their willingness to put in additional effort during the initial dictionary building stage.
4. A computer-aided transcription system is most efficient when administered by the reporters themselves.
5. Elimination of transcript delay requires cooperation of court reporters and appellate court administrative control to assure timely filing of transcripts.

Wilfried J. Kramer
Clerk

Carol Harnsberger
Scope Operator

Enclosure.

REPORT ON THE PILOT PROGRAM FOR PREPARATION OF COMPUTER-AIDED REPORTER'S TRANSCRIPTS

Introduction

Appellate delay includes delays occurring in all stages of the appellate process. This report considers methods that can be used to reduce appellate delay in preparation of the reporter's transcript on appeal. It takes an average of 4 months or more after filing of the notice of appeal for the appellate court to receive the reporter's transcript in civil appeals.

There are two main reasons for delay in preparation of the reporter's transcript:

- (1) The long time now provided for ordering and paying for the reporter's transcripts and
- (2) The long time required for actual preparation of the reporter's transcripts.

This report is limited to seeking ways of reducing the time now required for actual preparation of the reporter's transcript.

Court reporters now face many competing and conflicting workload demands. Since, in most cases, their salary is paid by the trial court, they consider trial court work to be their first responsibility. If a transcript is requested in a civil appeal, the reporter contracts independently with the parties for payment of the costs involved in transcript preparation. Because most court reporters are already heavily involved in the day-to-day work for which they are paid by the trial court, the preparation of appellate transcripts often must be relegated to evenings and week-ends. This of necessity causes delay in preparation of the reporter's transcripts on appeal.

Reporter's transcript preparation delay can be measured in two ways:

- (1) The large number of cases in which reporters find it necessary to seek extensions of time beyond the time provided by the rules of court and
- (2) The reduced time that could be possible if a more expeditious way of producing the reporter's transcripts can be developed.

Reporters now find it necessary to seek extensions of time in a large percentage of both civil and criminal appeals. These requests create additional work for them and for the court. If a more expeditious way of preparing reporters transcripts can be developed, most of these requests could be eliminated.

This pilot program for computer-aided reporter's transcript preparation indicates that it now takes approximately 67 person hours to complete a 400 page reporter's transcript using conventional methods. Once a Reporter has gained sufficient experience in using the computer equipment, the same reporter's transcript can be produced in 10 person hours, if the computer equipment is used.

Comparison of Methods Used for Preparation of Reporter's Transcripts

Under the conventional method of preparing reporter's transcripts, the court reporter writes his stenograph notes of the trial court proceedings on a stenograph machine. If a transcript is ordered, the reporter must read and dictate his notes into a tape recorder. A transcriber must then listen to the tapes and type the reporter's transcript. The typewritten transcript must then be proofread and necessary corrections made. Assuming a 400 page reporter's transcript, it requires approximately 20 hours for the reporter to dictate his notes, 40 hours of typing time and 7 hours for proofreading, a total of 67 hours.

Under the computer-aided method of preparing reporter's transcripts, the reporter uses a special Baron modified stenograph device (Data Processor) that has the capability of creating a magnetic digital cassette tape of the reporter's stenograph outlines. Each reporter is initially provided with a list of 14,000 words to "write" on his Baron modified stenograph device. The resulting tape is transferred onto an individual reporter's computer dictionary disk by the Baron Company. This dictionary disk reflects the individual outlines of each reporter. This is necessary because each reporter's writing style is unique to that reporter. The individual reporter's disks are sent to the computer transcription center for use in preparing the transcripts of future trial proceeding tapes.

The transcription center consists of a Central Processor Unit (mini-computer), a keyboard and editing scope, a high speed typewriter-printer, and the individual court reporters' dictionary program disks. When a reporter's transcript is ordered, the court reporter sends his tape of the proceedings to the computer center. There it is inserted into the computer and matched with the reporter's program disk. The material is transferred electronically from the tape to the disk where it is read, sorted, translated and displayed in English text on the computer editing scope. This takes just a few minutes.

If the reporter is located in close proximity to the computer center, he can make his own corrections directly on the computer scope. If the reporter resides at some distance from the computer center, the English text is typed as a first run printout on the typewriter-printer and mailed to the reporter for editing. When the reporter returns the edited text, the scope operator enters the changes for him on the computer scope.

There are two basic types of changes that may be required at the editing scope: (1) Untranslates and (2) Conflicts. Untranslates are words that were not included on the reporter's original 14,000 word computer dictionary disk. Since the computer is unable to translate such words, it will display the stenograph outline instead and indicate its inability to translate that particular outline. Either the reporter or a scope operator who can read stenograph outlines can then insert the correct translation of the outline and, if they wish, add that outline to the basic reporter's computer disk, thereby reducing the need for changes in the future.

Conflicts are stenograph outlines of words with a common outline but different spellings and meanings, (ie. to, too, two, there, their, they're, etc.) Sometimes outlines can be modified or used in conjunction with other words to reduce the number of conflicts.

The results of our pilot program show that some reporters had as many as 70 changes per page when they first started using the computer equipment. After processing 2,000 pages of transcript (about 6 months), the number of editing changes had been reduced to 15 or less per page. Some reporters now have less than 10 changes per page. This permits them to edit and print between 35 and 45 pages per hour.

After the editing has been completed, the final reporter's transcript is typed on the computer's high speed typewriter-printer while the reporter works on editing another case. Experienced reporters can edit and print a 400 page transcript in about 10 hours as contrasted with the 67 hours required under the conventional method of preparing reporter's transcripts.

Starting a Computer-Aided Transcription System

Although the potential advantage of using a computer-aided transcription system for reducing transcript preparation delay

appears obvious, there are many difficulties in assisting court reporters in getting started on such a computer aided system. These include the following:

- (1) General apathy
- (2) A lack of definition of who is responsible for monitoring transcript preparation delay. The trial court does not consider itself responsible for monitoring such delay nor should court reporters, who must first answer for their time to the trial court, be expected effectively to monitor their own activities. It was our conclusion that monitoring transcript preparation delay can best be achieved by the appellate court and that it has the most compelling interest in reducing unnecessary delay.
- (3) Unfamiliarity of court reporters with the new computer equipment and its advantages.
- (4) Reluctance to enter into a long range contract of 3-5 years for computer equipment without greater assurance of its benefits and cost effectiveness.
- (5) The lack by court reporters and trial courts of capital outlay funds with which to acquire the necessary Baron modified stenograph equipment as well as installation costs.

Through the cooperation and assistance of the Administrative Office of the Courts in California, the Court of Appeal was provided with funds to start a pilot program for computer-aided transcription of reporter's transcripts. The purpose of the program was to enable selected reporters to use the new equipment and determine whether its use would reduce transcript preparation delay without increasing costs. We are grateful for the assistance of the Administrative Office of the Courts which made this possible.

GOALS OF THE PILOT PROGRAM

The goals of the pilot program for computer-aided transcription of reporter's transcripts were as follows:

- (1) To study the feasibility of trial court reporters using the computer equipment for preparation of transcripts;
- (2) To enable court reporters to experiment with use of the new computer equipment without large personal cash outlay or costs;
- (3) To discover the potential for time savings in transcript preparation through use computer-aided equipment; and
- (4) To discover whether the computer-aided preparation of reporter's transcripts would be cost-effective.

IMPLEMENTATION OF THE PILOT PROGRAM

Under the auspices of the Administrative Office of the Courts, the Appellate Court entered into a 3-year contract for installation of a Baron computer-aided transcription center in space available in our office. The center was installed in April 1978. We acquired 6 Baron modified stenograph devices (Data Processors) which were made available for 1 year without charge to court reporters who were interested in the program and who agreed to provide 500 pages of transcript per month. The court paid the costs of the reporter's dictionary disks and their preparation and, as reimbursement for initial additional work involved in adapting to the new equipment, provided 2000 pages of computer-aided transcription without charge. The reporters were charged 75 cents per page for all further transcript pages to reimburse the State for the use of the computer and salary of the scope operator.

Court reporters from Stockton, Oroville and Redding were enrolled in the program. Subsequently, the equipment was also made available to reporters from the Office of Administrative Hearings and the State Personnel Board Hearing Reporters.

The reporters from Stockton were able to come to Sacramento to edit many of their tapes while the reporters from Oroville, Redding and the State Hearing Reporter were provided with first-run printouts which had been pre-edited by the scope operator. These reporters would then edit their first-run printouts and return them to our scope operator for actual entry of the changes on the computer editing scope. After editing, the final transcript pages were printed and returned to the reporter for binding and certification.

First Year Results and Conclusions of the Pilot Program

The results at the end of the first year of our pilot program indicate that substantial time savings in preparation of reporter's transcripts are possible through computer-aided preparation of reporter's transcripts. As indicated, a 400 page reporter's transcript can be completed in just 10 person hours through use of the computer equipment as compared to 67 hours for the conventional method now commonly in use.

The results of the pilot program also have shown that substantial cost savings are possible if the reporters are able to do their own editing at a computer scope station as compared to their editing and returning a first-run printout to the scope operator. It takes less time for a reporter to make a change at the computer scope than to write it on the first-run printout. Use of a first-run printout requires "double editing", once by the reporter on the first-run printout and followed by actual entry of the change by the scope operator. However, even the first-run printout method costs less than the conventional method now in general use.

We have estimated the actual cost of preparation of a transcript by conventional method to be \$1.21 per page (See Exhibit A). This compares to from 68 to 83 cents per page if the reporter edits his own work at the computer scope or \$1.00 to \$1.15 if the services of a scope operator are provided. Direct editing by the reporters also results in greater time savings than are possible where the first-run printout is mailed back and forth.

Our original agreement with Baron Data required translation of a minimum of 3,600 pages per month. Because of the limited number of reporters and Baron modified stenograph devices in use as well as fluctuations in reporters workloads, we were unable to achieve this volume but did produce as many as 2,600 pages per month. It is probably unrealistic to expect to produce 3,600 pages of computer-aided transcript per month unless more equipment and reporters are involved in the program. The new Baron low volume into which we have now entered requires only a minimum of 2,000 pages of transcript per month at a rate of 50 cents per page translated. If our volume increases to 4,000 pages per month, the cost per page will be reduced to 35 cents.

Continuation and Expansion of the Pilot Program

As indicated in the cost comparison of the results of the first year of the pilot program, the most effective way of operating a computer-aided reporter's transcription system is where the editing can be done directly by the reporters in their own offices rather than relying on the assistance of a scope operator.

Recognizing this fact, the San Joaquin County Court Reporters who participated in the original pilot program, sought the court's assistance in establishing a computer transcription center in their own offices in the county courthouse. An agreement has been entered into between the appellate court and the San Joaquin reporters and a second computer transcription center is now in operation in Stockton. The appellate court has loaned the San Joaquin reporters 4 Baron modified stenograph devices for 1 year

and arranged for the initial installation. The San Joaquin court reporters have agreed to reimburse the appellate court for all operating costs of the computer center under the contract between Baron Data and the Appellate Court. The San Joaquin reporters will provide the court with production statistics relating to operation of the new center.

Although the best way for reporters to edit their work is where they have direct access to the computer scope, there are many reporters who live in remote areas and cannot avail themselves of direct access to a computer scope. Those reporters who participated during the first year on a first-run printout basis have expressed a desire to continue with the program. In order to make it possible for them to continue as well as to encourage other reporters to become involved, we will continue to provide a computer transcription center in our office in Sacramento and to provide the services of a scope operator to assist reporters in getting started and in editing their printouts.

The Office of Administrative Hearing Reporters and the State Personnel Board Hearing Reporters have agreed to participate in the operation of the Sacramento center by guarantying the cost of producing 1,000 of the 2,000 pages of monthly transcript required by the contract with Baron. These agencies will provide their own modified stenograph equipment and pay their own costs of the reporter's dictionary computer disk.

The purchase of additional Baron modified stenograph devices has been budget for 1979-80. As this equipment becomes available, we intend to invite other court reporters to become involved in the program and to help them in getting started. We hope to develop sufficient workload to permit the reduced costs of 35 cents per page provided by Baron's high volume contract of 4,000 pages of translation per month.

CONCLUSION

The results of our study of computer-aided preparation of reporter's transcripts indicate that it offers an excellent opportunity of reducing the long time now required for preparation of reporter's transcripts and that the program is cost-effective. Transcript preparation delay can be greatly reduced if appellate courts, trial court administrators and court reporters cooperate in developing programs that will make computer-aided transcription equipment available to additional court reporters.

Dated: April 20, 1979

WILFRIED J. KRAMER, Clerk
Court of Appeal, Third District
State of California

COMPARISON OF TIME REQUIRED FOR PREPARATION OF REPORTER'S TRANSCRIPTS 400 Pages

<u>Conventional Method:</u>		<u>Computerized Method:</u>	
Reporter's Dictation Time at 2 pages per hour ⁽¹⁾	20 hours	Reporter's computer editing time at 40 pp. per hour ⁽¹⁾	10 hours
Transcriber's time at 10-15 Pages per hour	27-40 hours	Computer printer time ⁽³⁾	3.5 hours
Proofreading	7 hours	(Proofreading included in editing)	
Total:	54-67 hours	Total:	13.5 hours

COMPARATIVE COSTS OF PRODUCING REPORTER'S TRANSCRIPTS

1. Conventional Method:	
a. Reporter's Dictating Time at \$9.10 per hr. ⁽¹⁾ assuming 20 pages per hr. ⁽²⁾	.46 per page
b. Transcriber's time	.60 per page
c. Reporter's proofreading time ⁽¹⁾	.15 per page
Total:	\$1.21 per page

2. Computer system with editing by scope operator at Court of Appeal:	
a. Baron computer costs	.60 per page
b. Scope operator's time in translating, editing and printing	.25 per page
c. Reporter's time proofreading from first run printout assuming 30 pp. per hr. (1)	.30 per page
Total:	\$1.15 per page *
3. Computer system with Atlas station:	
a. Baron computer costs	.60 per page
b. Scope operator's time in processing stenotype tapes and printing	.05 per page
c. Reporter's time in editing at Atlas station assuming 40 pp. per hr. (1 & 2)	.23 per page
d. Atlas station lease for 2,000 pp. per month	.25 per page
Total:	\$1.13 per page *
4. Computer system leased to and operated by local reporters: (low volume - 2000 pp. per month)	
a. Baron computer costs	.60 per page
b. Reporter's time in editing and printing transcript assuming 40 pp. per hr. (1 & 2)	.23 per page
Total:	\$.83 per page *
5. Computer system leased to and operated by local reporters: (high volume - 4000 pp. per month)	
a. Baron computer costs	.45 per page
b. Reporter's time in editing and printing transcript assuming 40 pp. per hr. (1 & 2)	.23 per page
Total:	\$.68 per page *

- (1) Hourly rate of \$9.10 for court reporters is based on annual salary of \$18,333.00 in Sacramento County. The rates vary in each county.
 (2) Some reporters can dictate faster than 20 pages per hour; some computer reporters can edit faster than 40 pages per hour.
 (3) Printer operates automatically and requires minimum additional clerical effort.

* Does not include amortized costs of Baron modified stenotype device.
 Dated: January 19, 1979

Wilfried J. Kramer, Clerk

SUPPLEMENTAL PREPARED STATEMENT OF RICHARD H. DAGDIGIAN

The United States Court Reporters Association wishes to respond to several areas of the written and oral testimony presented on June 26, 1981, to the Senate Judiciary Subcommittee on the Courts at a public hearing chaired by the Honorable Robert J. Dole.

Thirteen witnesses gave oral testimony during a 2½ hour hearing, supplementing hundreds of pages of written testimony previously submitted to the Subcommittee.

Two official representatives of the United States Court Reporters Association attended the hearing and presented oral testimony, Richard H. Dagdigian, Immediate Past President, and Samuel H. Blumberg, Jr., Executive Director of USCRA. Mr. Dagdigian and Mr. Blumberg have reviewed all of the oral and written testimony, and on behalf of USCRA wish to make the following response:

ELECTRONIC RECORDING - DEJA VU

The Honorable Ernest C. Friesen was Director of the Administrative Office on November 12, 1969, when he testified before Subcommittee No. 5 of the Committee on the Judiciary of the House of Representatives, with the Hon. Emanuel Celler, Chairman of the Committee, presiding. Also present were Representatives Rodino, Rogers, McCulloch, and McClory.

A portion of the printed record of the hearings on S.952, an omnibus judgeship bill, and for other purposes, commencing on page 373 thereof, as it pertains to electronic recording, follows:

MR. FRIESEN: Also attached to this bill, as you know, are provisions having to do with court reporters, increasing the ability of the Judicial Conference of the United States to deal with the court reporter problem in a flexible way.

I would emphasize, Mr. Chairman, that the only purpose of the Judicial Conference in recommending this legislation on court reporters is to put in the hands of the Judicial Conference and the judiciary the ability to deal with the problem.

We do not pass upon the desirability of using electronic recording. We only would like to have for the judges in the Judicial Conference the right to study that matter scientifically and make the decision for the judges by the judges when they have had their opportunity to study it.

MR. MCCULLOCH: Has the Judicial Conference in the past considered the propriety, the necessity and the efficiency that would result from this kind of a system of reporting, or is this the first time that it has come up, when maybe there should have been studies carried on for a number of years? Is that right?

MR. FRIESEN: This is the first time in my 2 years as the Director that it has come before the Judicial Conference of the United States. I understand it has been before them before and on previous occasions they rejected the use of electronic equipment in the courts. On this occasion, they have approved this bill because it would give them the discretion to study and decide, not because they favor, and they have not passed upon whether they favor, the use of electronic equipment.

THE CHAIRMAN (Mr. Celler): Do you know what the Judicial Conference did to advise itself as to the efficacy or the inequity of the type court reporting that has been recommended? Did they have any hearings on what they based their judgment, which is a reversal of their previous judgment? Do you know?

MR. FRIESEN: They simply thought it was proper for the courts to have the discretion to use the devices that could be scientifically proven effective. They do not have a view that this is effective. They are simply asking and recommending that they be given discretion to use this type of equipment to see if it would prove effective.

THE CHAIRMAN: It strikes me that we ought to know on what they base that conclusion.

MR. FRIESEN: There are a number of places in the United States and in the world where electronic reporting is being used, and there are a number of experts who say that it works effectively. The court administrator for the State of New Jersey, for instance, has pronounced several times with the supreme court of that State that it is effective. I do not know whether it is and the judges of the United States do not know whether it is. They simply say they would like to have that right to use it.

THE CHAIRMAN: I think all of the judges of the committee would have to go into this in greater detail to learn more about this method. I do not think the Judicial Conference has gone fully enough into it even though they recommend consideration of it.

(Underlining supplied in all instances.)

Despite the fact that the Senate had passed an amendment by a floor vote, without hearings, that would permit electronic recording of district court proceedings in the absence of a live reporter, the House Judiciary Committee voted down such a provision, and in joint conference, that provision was stricken from S.952 as passed by the Congress of the United States.

However, we still hear the same words from the Administrative Office, allegedly speaking on behalf of the Judicial Conference, stating that they want "flexibility," "discretion to study and decide," and "recommending that they be given discretion..."

Almost 12 years have passed since the distinguished Chairman of the House Judiciary Committee, the Hon. Emanuel Celler, suggested that the Judicial Conference should advise itself as to the efficacy or the inequity of the electronic recording they recommended, and that the Chairman felt the Committee ought to know on what they base their conclusion. In the meantime, the Judicial Conference has conducted no hearings and has not solicited views from the trial judges, the judges of the United States District Courts, who would, under the recommendation of the Judicial Conference, have electronic recording imposed upon them, whether they desired it or not.

USCRA received copies of many letters from District Court judges addressed to the Chairman of this Subcommittee, the Hon. Robert

J. Dole, and almost all of them specifically state objections to the use of electronic recording in their courtrooms.

It would be an easy matter for the Judicial Conference to devise a questionnaire to be sent to each District Court judge, which questionnaire would solicit any experiences they may have had with tape recorders and transcriptions therefrom, as well as their views on the advisability of even testing such equipment in the District Courts on an experimental basis in the absence of a live reporter.

The Judicial Conference, the Administrative Office and the General Accounting Office spokesmen never addressed in their oral or written presentations to this Subcommittee one major problem which is inherent in electronic recording -- the transcription of that recording, the time it takes, the quality of the transcription (no matter how good the recording), or the cost of the transcription.

Chairman Dole recognized that problem in his opening statement when he said: "The function of reporting judicial proceedings is actually comprised of two separate operations. The first is the recording of what takes place in the courtroom, hearing, deposition, etc. The second is the transcription of the record which is taken....."

"Because these are two distinct phases of the court reporting operation, we must be careful to address them separately. We must remember when examining the current system that we can modify the recording operation without modifying the transcription operation and vice versa. However, we must carefully analyze how any proposed improvement will affect the entire system."

USCRA respectfully suggests that any experimentation which the Judicial Conference wishes to undertake can and should be done in the District Courts in the presence of a live reporter, so that a meaningful comparison can be made as to time of transcription, accuracy of transcription, cost of transcription, etc., as between the live reporter and the electrical system.

And USCRA also respectfully suggests that representatives of its association should be a part of setting up such experiments and evaluating the results, with a view to eventually making a meaningful report to this Subcommittee at some later appropriate date. In the meantime, however, USCRA again respectfully urges, as it did in its original submission to this Subcommittee, that the recommendation that live reporters be replaced by electronic recording devices, even on an experimental basis, should be dismissed out of hand by this Subcommittee.

A. O. FAILS TO DO JOB

Mr. Dagdigian said in his oral statement on June 26, 1981, "We believe it is clear that the Administrative Office has failed to do the job that it has been directed to do by the Congress of the United States and the Judicial Conference of the United States."

And on page 69 of USCRA's Prepared statement, Mr. Dagdigian, in this connection, stated:

"Indeed, USCRA is aware of some instances in which persons were appointed as official court reporters who possessed none of the qualifications spelled out by the Judicial Conference, but merely operated a tape recorder, this in complete defiance of the statute. The Administrative Office, to our knowledge, has not protested such appointments; and by its silence would appear to condone such appointments. We state that such appointments are contrary to law, and that action should be taken by the Judicial Conference and/or the Administrative Office to have such 'reporters' removed from office."

Proof of at least one "reporter" who relies solely on a tape recorder as the only means of recording a hearing in a United States District Court is contained in a letter to USCRA's Executive Director from Janet H. Thurston, Esq., of Abingdon, Virginia, dated June 18, 1981. This letter arrived too late to be included in USCRA's Prepared Statement, and it is reproduced here in full for the information of the Subcommittee, commencing on the next page.

COPELAND & THURSTON

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

212 WEST VALLEY STREET

P. O. DRAWER 1036

ABINGDON, VIRGINIA 24210

(703) 626-9525

June 18, 1981

ROBERT E. COPELAND
JANET H. THURSTON

OF COUNSEL
GILBERT K. DAVIS

Mr. Samuel M. Blumberg, Jr.
Executive Director
United States Court Reporters Association
Room 510, 85 North Sixth Street
Reading, PA 19602

Re: Proposed Senate plan for electronic recording in the
United States Federal Courts

Dear Mr. Blumberg:

It has come to my attention that a Senate Committee, chaired by Senator Dole, will very shortly be conducting hearings regarding a proposal to standardize the method and manner in which trials in United States Federal Courts are reported, by adopting a system of electronic recording of those hearings and trials. I would like to take this opportunity to voice my strong disapproval of such a proposal, because just within the last year, I have had two rather unpleasant experiences with electronic recording during federal trials held here in the United States District Court for the Western District of Virginia.

The first such incident occurred in August of 1980, when I was involved in a Title VII religious discrimination case. At that time, the United States District Court Judge was conducting a hearing on the damages claim of a successful Title VII plaintiff, and when the transcript of the hearing was mailed to me and delivered to the court, it was discovered that, due to the fact that electronic recording equipment had been used in a courtroom where the acoustics were rather difficult, the resulting transcript was flawed by continual notations that questions and answers, as well as the rulings of the court were "inaudible".

Even more recently, on April 15, 1981, I was involved in a Section 1983 claim, representing a plaintiff who had filed his action in the United States District Court for the Western District of Virginia here in Abingdon. On that occasion, in the case styled Fields v. Shepherd and Howard, the trial began at 9:00 in the morning before a jury, and continued until approximately 4:45 p.m. in the evening. The only means of recording the hearing was an electronic taping device. At approximately twenty minutes to 5:00, the presiding judge, the Honorable Glen M. Williams, requested that the court reporter play back a question that had been asked and objected to, in order that the judge might give his ruling on the same. It was only at that point, after approximately six hours of trial, that the court reporter discovered that the taping device was malfunctioning, and a complete record of the proceedings that day did not exist. At that point, having been informed that there was no record of the case, Judge Williams had absolutely no choice but to declare a mistrial. This particular mistrial was particularly disgusting to me and my client, because I was not able to obtain a new trial date until more than two months later, my client had to bear the expense of flying in co-counsel, Mr. Gilbert K. Davis, from Northern Virginia, my client was faced with immense subpoena costs, which due to his financial circumstances he could ill afford to bear, and my client, myself and my co-counsel will have to repeat this entire performance before a new jury in July.

RECEIVED
JUN 23 1981

In summary, I believe that the frustrations that I have encountered with electronic court reporting devices are in no way unique. Without a backup system of some sort, attorneys, clients and judges will, in my opinion, be continually faced with such aggravating and expensive mistakes and malfunctions such as those that I have described. I can only hope that you and your association will take whatever action you deem necessary to prevent the passage of such a proposal, and if there is anything more that I can do to further your cause, please do not hesitate to contact me.

Sincerely yours,

COPELAND & THURSTON, P.C.

Janet H. Thurston

Janet H. Thurston

ADMINISTRATIVE REMEDIES

In its Prepared Statement, as well as in its oral testimony, USCRA argued that whatever deficiencies exist in the present system can and should be corrected administratively. For example, the United States District Court for the Central District of California entered General Order No. 223 on April 14, 1981, providing for full utilization of all available reporters, whether working for active Judges, Senior Judges, Visiting Judges, or any other judicial officers. That General Order is attached as Exhibit "A."

The United States District Court for the Northern District of California is working with a committee of reporters there on two proposed General Orders, one referring to court reporter services in expedited, daily and hourly copy cases, and the other spelling out rules for providing court reporter services for magistrates; in other words, full utilization of reporters.

Other District Courts throughout the country, as a result of the publicity caused by the General Accounting Office audits and, indeed, the hearing before this Subcommittee, are taking action on their own to correct whatever deficiencies or problems that may exist in their own areas.

Therefore, USCRA again respectfully suggests that no further action by this Subcommittee on the subject of the Federal court re-

porting system is necessary to correct any alleged or actual problems in the system; and that the Judicial Conference request to have the Court Reporter Act changed so as to permit experimentation without live reporters present should be dismissed until it has conducted meaningful studies and tests of both electronic recording AND transcription, and until it has conducted a survey of the trial judges of the United States Courts as to their views, at which time it may or may not wish to renew its current request.

USCRA is grateful for this opportunity to submit these additional points to the Subcommittee on Courts, and will be available at any time to provide any further information which may be desired.

July 13, 1981

EXHIBIT "A"

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

FILED

APR 16 1981

CLERK, U.S. DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
BY *V. Ullrich* DEPUTY

RE:

REPORTER, OFFICIAL (PERMANENT AND
REGULAR), TEMPORARY INDEFINITE,
THREE-MONTHS RENEWABLE, AND
TEMPORARY

GENERAL ORDER NO. 223

1. Pursuant to 28 U.S.C. §753, to implement the Administrative Office Guidelines based on the resolutions of the United States Judicial Conference in order to facilitate utilization of all available reporters, whether working for active Judges, Senior Judges, Visiting Judges, or any other judicial officers, and upon the unanimous recommendation of the Court Reporters Committee of this Court, every court reporter shall report on Friday of each week to

the reporter working for the Chief Judge as to his or her work schedule for the next ensuing week. This report should be updated by noon on the following Tuesday.

2. If any reporter has no court duty for the whole of the next ensuing week, has no substantial backlog of appellate transcripts, and is not on vacation, disability leave, medical leave, or other absence authorized by that reporter's Judge, that reporter shall be available as relief for any other reporter who has a substantial backlog of appellate transcripts which require completion, or for a reporter who requires emergency relief on any other basis.

3. Unless a reporter is on vacation, disability leave, medical leave or other absence authorized by that reporter's Judge, he or she must be available in the courthouse during regular business hours.

DATED: April 14, 1981

Andrew Hauk
Andrew Hauk, Chief Judge

William P. Gray

Manuel L. Reali

Robert J. Kelleher
Robert J. Kelleher

Wm. Matthew Byrne, Jr.

Lawrence T. Lydick

Malcolm M. Lucas

Robert M. Takasugi

Laughlin E. Waters

Mariana R. Pfaeizer

Terry J. Hatter, Jr.
Terry J. Hatter, Jr.

A. Wallace Tashima

David V. Kenyon

Consuelo B. Marshall

UNITED STATES DISTRICT JUDGES

Senator DOLE. Judge Griesa?

STATEMENT OF JUDGE THOMAS P. GRIESA, U.S. DISTRICT COURT, SOUTHERN DISTRICT OF NEW YORK, N.Y., ACCOMPANIED BY JOEL HILLMAN, CHIEF REPORTER

Judge GRIESA. Senator Dole, I am Thomas Griesa, a judge in the Southern District of New York and chairman of the court reporters' committee of that court. I will not attempt to read my statement. I know time is short this afternoon. I just have a few comments which I will make.

Senator DOLE. I might say that all the statements, except the very lengthy ones, will be made a part of the record. Some will be available for the record. We have to pay for that and should keep the record as brief as we can.

Please proceed.

Judge GRIESA. There has been discussion this afternoon of what has been referred to as the bifurcation or the dual function. I would like to say that it is the position of our court that that has great merit. It has a certain logic in that the reporters do perform two functions: court attendance and furnishing of transcripts.

The furnishing of transcripts depends on the needs of the attorneys and the parties. I will not try to go into the theory of that in-depth, but our position is that, subject to good management, it is a very practical system. We find that it provides the reporters with a great incentive to be efficient and to perform good service because of the kind of free enterprise aspect to that.

We do not find in our court that this is the cause of a cynical attitude by the reporters of, "Well, we have a captive audience and we are going to abuse them." We just do not have that. We find that the reporters have great dedication. They are dedicated to doing good service. That is our experience.

We also believe there is merit in having the reporters pay out of their transcript earnings for the expenses of operation and for their equipment. We find that there is an incentive for efficiency that they run their business in that way. We also believe that probably in the long run it saves the Federal Government some money.

As I have described in the written statement, we have a pooling system. Reporters are assigned solely on the grounds of necessity. Pooling gives maximum flexibility. We find it has great merit, particularly in a large court, although maybe it does not have merit for other courts. We would not presume to speak for them.

We would like to say that in our court our reporters are fully occupied. There is no moonlighting. They are more than fully occupied. They work with tremendous intensity and tremendous hours. There is no hiring of substitutes to provide time for official reporters to engage in outside activities. We would not tolerate it. There is no backlog. There has not been a backlog in the memory of any judge on the court. These men work and meet their commitments. There is no overcharging. It would not be tolerated.

I am not trying to say that in an egotistical way. However, it just seems to me that the problems that are brought out in other statements are problems of mismanagement, pure and simple.

You asked about suggestions about management. Frankly, Senator, I have not thought that through in any depth because, as I said, we are quite content with our system. However, I would say that it seems to me the management responsibility should fall on the chief judge and judges of the court.

I would disagree, I believe, with the concept of making the reporters subordinate to the clerk's office. The judges should be responsible under guidelines that the Congress and Judicial Conference give them. Surely they would not be so slack that they would not enforce those guidelines.

I would like to comment briefly on the electronic recording. As I said in my prepared statement, we believe that it is not practical. We believe that, as in so many things in this world, an intelligent human being is indispensable. We find that the skill and intelligence of a reporter in court who is trained over years and years to understand technical language, problems of pronunciation, and so forth is indispensable. I will not belabor that. We just wanted to state our position that we do not agree that there is any feasibility at the present time in having a recording device substitute for a live court reporter in court.

I know my time is up. I have commented in my prepared statement on the computer-aided transcription which we find is a help as a supplement.

[The prepared statement and supplemental statement of Judge Griesa follow:]

PREPARED STATEMENT OF JUDGE THOMAS P. GRIESA

Mr. Chairman and members of the Subcommittee:

I am a judge in the United States District Court for the Southern District of New York. I am chairman of the Committee on Court Reporters in that court.

Our court has been asked by counsel for the Subcommittee to address three subjects:

The pooling system used by the reporters in the Southern District;

Electrical sound recording;

Computer-aided transcription.

Before discussing these subjects specifically, I would like to make a few general comments about the Southern District court reporting system.

It goes without saying that the creation of an accurate record of court proceedings and the prompt transcription of those proceedings when needed are absolutely essential to the judicial system. Any serious deficiency in the reporting function results in disorder and delay, and a diminution in the quality of justice.

The judges of the Southern District wish me to state that our reporting system fulfills the needs of the court and the public in what we believe to be an outstanding fashion. The service is remarkable, both in the quality of the work and the promptness with which it is carried out. This results from a variety of human factors, such as the

talent and devotion of the individual reporters and the cohesiveness of their organization. It also results from a structure, including a compensation structure, based upon the existing statute and administrative rules.

For as long as anyone in our court can remember, there has never been a backlog on the part of our court reporters in meeting their commitments to the court and the parties. A special note is appropriate on the important question of delivery of transcripts for appellate proceedings. If it appears that there may be a problem in meeting an appellate deadline, all necessary reporters and transcribers are assigned to producing the transcript for whatever extra time -- including evenings and weekends -- is necessary.

In an era when there is universal complaint about the deterioration of services in so many fields, it is indeed gratifying to have an operation with such unflagging high standards.

Pooling System

The reporters in the Southern District operate on a pooling system, rather than having a reporter assigned permanently to a judge. I hasten to say that although this system works admirably for our court, it may not be appropriate for other courts, with different problems and traditions. Fortunately, the statutory framework permits the courts to have a substantial degree of flexibility, so that they can shape the details of their reporting systems to meet their particular needs.

In our court there are thirty-one official court reporters. They have the responsibility of covering a court which has an authorized complement of twenty-seven active judges and always has about five to seven senior judges who are sitting on cases.

The court reporting and transcribing process as a whole involves a staff of support personnel in addition to the court reporters. There are about fifteen full-time transcribers and about five part-time transcribers, who mainly type from the reporters' stenotype notes. In addition, there are twelve office employees, who operate copying machines and collators, handle the bookkeeping, and deal with the schedules of the reporters and the orders for transcript. Office hours are maintained from 8:00 a.m. to 8:00 p.m.

The Southern District court reporters produce in the area of 500,000 pages of transcript annually. This refers to original pages, without counting copies.

As authorized by the applicable statute, 28 U.S.C. 753, the official reporters obtain compensation through their Government salaries and also through fees for transcripts ordered by parties to litigation.

A basic and important feature of the finances of the Southern District court reporting is that the official reporters pay, out of transcript earnings, the salaries of the transcribers and all other support personnel. Also, out of this transcript income the reporters pay for all equipment and supplies. They do not stint on providing the most modern and efficient equipment. They have recently added a series

of machines for computer-aided transcription in order to supplement the services of the regular transcribers. The Government does not pay any of these costs.

In connection with personnel, it should be noted that the reporting service employs nonofficial reporters for deposition reporting and assistance in court when needed. Among the advantages of the use of these nonofficial reporters is the fact that they can be trained, and their work carefully scrutinized, for possible elevation to positions as official court reporters. The compensation of these nonofficial reporters is another item which is paid out of the transcript income. In other words, the Government is not billed for any of the services of the nonofficial reporters, including court appearances.

For purposes of management and orderly accounting, the official court reporters have formed a corporation styled as Southern District Reporters, P.C. Each official reporter holds an equal interest in this corporation. The court reporters have arrived at a system whereby, over time, the compensation to each official reporter from the transcript income (after payment of all the expenses described earlier) is roughly equal.

In the pooling system in the Southern District the reporters are assigned to court appearances entirely on the basis of necessity. The reporting needs of each judge are ascertained daily. These needs will obviously vary. Also, unexpected changes in a judge's schedule may occur within any given day.

The pooling system permits the maximum flexibility to meet the varying needs of the court. A reporter who finishes with one judge at some point during the day is available for assignment to another judge. A single reporter may work for three or four judges during the course of a given day.

In addition to his primary duty of court attendance, the reporter is responsible for a certain amount of work in preparing his notes for transcribing and for proofreading the transcript. The reporter must manage to carry out these duties in the course of a busy schedule of court appearances.

In our court there are a substantial number of cases where the parties require hourly or daily copy -- that is, where the transcripts are furnished the same evening or the morning following the day the minutes are recorded. It is not unusual in this court to produce in excess of 1500 pages of expedited transcript each day. This operation requires a team of reporters and transcribers. The pooling system serves this function extremely well.

The reporters and other members of the staff in the Southern District are employed to their maximum capacities. There is literally no dead time for anyone involved. This is a very tight operation.

Sound Recording

In our court's view, the substitution of sound recording for live reporters in the courtroom is not practicable. It is my understanding that the overwhelming

weight of expert and judicial opinion on this subject is in accord with our position.

It may well be technically possible to have electronic devices in a courtroom which will accurately record the words spoken in a proceeding. However, what is frequently overlooked is the fact that there is a long distance between the recording of sounds and the production of an accurate written transcript. The essential link between the sounds and the accurate transcript is an intelligent human being, who can understand -- not merely hear -- what is spoken. Court proceedings involve difficulties of understanding in a multitude of ways. There are many instances in the English language where different words have essentially the same sound or phonetics. Many witnesses are called upon to testify about technical matters with specialized vocabularies. All witnesses, whether lay or expert, may have mannerisms or inhibitions which obscure the meaning of what they are saying. Foreign accents must be coped with. Any thought that an ordinary typist can make a satisfactory transcript from listening to a sound recording of a court proceeding must be dismissed as entirely unrealistic. We know of no such typists who are capable of performing this task.

Experience has demonstrated so thoroughly the need for expertise in court reporting that it has long been a requirement in the Southern District that a reporter have at least eight to ten years of experience before he can obtain an official appointment.

Aside from the problem of accuracy, there is a separate and serious problem about the speed of transcription from sound recordings. Even if there were typists with the requisite expertise, the process of transcribing from a sound recording is sufficiently cumbersome that it takes five to ten times as long as transcribing from a stenotype tape. This process would make hourly or daily copy virtually impossible to produce. The nonexpedited transcripts would be delayed inordinately.

Computer-Aided Transcription

In recent years the Southern District court reporters have been faced with increased demands for transcript, including expedited copy; and at the same time have experienced difficulty in obtaining high quality transcribers willing to work the long hours required.

In an attempt to meet this problem, the reporters, at very considerable expense to themselves, have installed a certain amount of computer-aided transcription equipment (CAT). At the present time approximately 20 percent of the transcription is handled by CAT.

Although CAT is a promising development in many ways, there are limitations on its utility. At this time, the Southern District court reporters intend to continue the use of live transcribers for the bulk of the transcription work, utilizing CAT only as a supplement.

The CAT system has desirable features in that it is a labor-saving device in the sense of replacing

transcribers to a certain extent. Also, when CAT is properly used, the quality of the transcript is of the highest order.

However, the saving in transcribers is offset by the need for special work in operating the CAT system. At present, in the Southern District the reporters themselves operate CAT. The purpose of this is to avoid the cost involved in hiring special operators and also to ensure the high quality of the transcript. Such a procedure places additional demands on the reporters in terms of time and the requirement of special skills. On the other hand, the hiring of special employees, called "scope operators," would present its own set of difficulties and involve added costs.

Conclusion

The experience of the Southern District with its court reporters is that, under the existing statutory scheme, it is possible to develop a highly efficient operation suited to the needs of the locality. One important factor, of course, giving our reporters the incentive for their outstanding performance, is the present system of compensation. Our judges strongly urge preserving this framework.

SUPPLEMENTAL STATEMENT OF JUDGE THOMAS P. GRIESA

I wish to supplement my statement of June 26 and testimony of that date, in view of the statements and testimony of the other participants.

This supplemental statement will deal with three subjects:

The question of using electronic recording in place of live court reporters;

The problem of possible improprieties on the part of the federal court reporters;

The handling of the "dual function" of the court reporters - i.e., attendance in court and sale of transcripts.

I.

In my statement and testimony of June 26 I voiced the position of our court in regard to electronic recording of court proceedings. I wish to add certain comments in view of what was presented at the hearing, particularly the proposal by the General Accounting Office favoring electronic recording.

Our concern about electronic recording is that, from most indications, it would reduce the quality of reporting to unacceptably low standards in respect to both the accuracy and promptness of the work. When we speak of the reporting work, we obviously mean accurate reporting in the courtroom, and the accurate and prompt furnishing of transcripts when required.

The weight of evidence and experience indicates that the essential factor to an acceptable standard of court reporting in a busy judicial system is the human skill of the live reporter in the courtroom. In the Southern District of New York, we are convinced that our reporting system has achieved a very high

standard largely because of the insistence upon the highest qualifications of skill and intelligence in the court reporters. Our court reporters have been quick to adopt, and invest in, new technology where this would improve quality and efficiency. But this has not led us in the direction of electronic recording in the courtroom.

What is essential to the federal court reporting system is to make sure that the supply of skilled court reporters in the federal courts is maintained without diminution. Of course, there should be proper management to make sure that court reporters who do not meet the standards, or who are guilty of impropriety and abuse, are disciplined or weeded out. This is all a necessary part of insuring the quality of the federal court reporting system.

We cannot agree with the proposal of the General Accounting Office regarding the desirability of electronic recording. I will not attempt a detailed analysis beyond what was presented in my June 26 statement and is presented here. Other presentations before the committee deal amply with the technical details. Suffice it to say that, in our belief, the General Accounting Office proposal overlooks the essential benefits of live court reporters and treats far too lightly the disadvantages of electronic recording.

II.

The statements of the Administrative Office and the General Accounting Office indicate that certain

abuses exist in the federal court reporting system, including charging fees for transcripts in excess of the prescribed rates and hiring substitutes to perform the work which the official reporters are obligated to carry out. Such practices, to the extent they exist, are indefensible. However, there is a straightforward administrative structure which is capable of remedying any situations of this kind. This structure includes not only the district courts and their chief judges, but also the judicial councils and the Judicial Conference of the United States.

As far as the Southern District of New York is concerned, there is no overcharging for transcript, nor is there any hiring of substitutes so that the official court reporters can work elsewhere. As explained at the hearing of June 26, the Southern District has a system under which the official reporters hire, at their own expense, certain nonofficial reporters. This acts as a supplement to the official reporters, who are engaged full-time (and indeed more than full-time) with their obligations in court. It should be noted that the official reporters do virtually no deposition work. Almost all depositions are reported by the nonofficials.

III.

The General Accounting Office statement alludes in several places to federal court reporters operating "private businesses" out of the courthouses. We must respectfully register a strong complaint about this characterization.

The system referred to is precisely what is contemplated by the statute and which exists for a variety of practical reasons - i.e., the system under which the official court reporters provide transcripts to litigants and are paid directly by those litigants. Also, the federal court reporters arrange to provide a certain amount of deposition work for which they are paid by the litigants. As explained earlier, in the Southern District the deposition work is done by nonofficial reporters hired at the expense of the official reporters. The man hours expended on transcribing depositions is 17% of the total man hours spent in transcription work in the Southern District.

The present federal court reporting system has certain distinct advantages over other methods which could be conceived of. When it is properly administered, as we believe it is in the Southern District, it meets the needs of the court and the litigants in an entirely satisfactory way.

The fact that the official reporters are employed by the court and receive a basic salary from the government means that the primary obligation of the reporters is to serve the needs of the court. The physical location in the courthouse of the reporters and their assistants is a convenience and also is a safeguard with respect to the records of court proceedings.

However, there is no logical reason why the federal court reporters should not deal directly with

litigants or their attorneys in providing transcripts which are ordered by them. In the Southern District, this method of handling transcript sales has worked well. It has given our reporters the incentive to maximum efficiency. It has allowed the reporters a rate of compensation which is reasonable and adequate in view of their skill and hard work, and is also competitive with the compensation of private reporters. The earnings from the sale of transcripts (and also from depositions) have been of general benefit, not only to the reporters, but to all concerned, including the court, because a substantial portion of these earnings has been invested in the purchase of a variety of expensive equipment and in the employment of auxiliary personnel, at no expense to the federal government.

Finally, I wish to comment on the indications in the General Accounting Office statement as to the failure of district judges to adequately supervise the reporters and to monitor their rates. I can only speak for the Southern District of New York, but wish to state that in this district there is a committee of judges dealing with the court reporting function. This committee, together with the chief judge of our court, closely monitors the court reporting function. This includes obtaining detailed, periodic information regarding the rates charged for transcript, to see that the applicable rules are complied with.

Senator DOLE. Thank you very much.

Mr. Gimelli, you have put up with us enough. Now you have a chance to get even on the other side.

STATEMENT OF JOSEPH GIMELLI, COURT REPORTING SERVICES, INC., ALEXANDRIA, VA.

Mr. GIMELLI. It is a pleasure to put up with you, sir. Thank you. To assist me to remain within my time allotment, I have jotted down just a few of the matters I would like to present.

I have been a stenotype reporter for more than 45 years, and I may be the only person present with actual experience in all of the systems of reporting in use today. I might add that I taught stenotyping in my own school in Boston which I started back in 1940.

For my prepared statement, I was asked to cover three areas of interest to the subcommittee: testing of court reporters to determine competence, direct recording, and the Gimelli voice writing system. I will address these subjects briefly because they are adequately covered in my prepared statement.

I would also appreciate being permitted to comment as well regarding other aspects of court reporting in which I have been directly involved.

First, on the subject of testing, there is no official Federal court reporter exam. The only guideline offered by the Administrative Office is that reporters who pass the NSRA merit examination are eligible for a salary increase. I might add there is no independent supervision of these tests.

I believe every State in the country has some form of qualifying examination, some more difficult than others, but no Federal court examination exists. Vacancies which occur usually are filled by the chief reporter, the chief clerk, or occasionally by a chief judge who is usually advised by his chief reporter, a stenotypist. The users of any other method are completely shut out.

Some 10 years ago, I was retained by the Administrative Office, then under the direction of Rowland Kirks, and the Federal Judicial Center, headed by Judge Murrah, to prepare 12 representative examinations to qualify court reporters. I prepared these tests with the idea that they would qualify a person merely to minimum standards.

These tests included the following: literary dictation, 180 words a minute; jury charge, 200; medical, 175; question and answer as well as four-voice dictation, meaning a judge, opposing counsel, and a witness, at 220 words a minute. Each of these was in segments of about 5 minutes.

Prior to the dictated part of the examination, the applicants were also given a written vocabulary, grammar, and punctuation test. Failure to pass this portion of the test was to have disqualified the applicant regardless of his achievement in the dictated portion.

About 20 persons took the test. Only three passed. The top grade was achieved by a stenomask reporter, but, because of pressure exerted by two prominent court reporter associations, a stenotypist was given the position despite his having failed the language portion of the examination.

Incidentally, the stenomask reporter was also the first one to complete the test. She hurried because her car was illegally parked.

I strongly feel that the Administrative Office should exercise authority in this area so they have complete control of testing and the selection of those successfully completing tests. My personal method of testing as described in my prepared statement would be somewhat unwieldy to administer to a large number of applicants.

As to direct recording, there are many areas where it might be suitable. Certainly it would be an improvement in those courts which are manned by stenotypists of very limited ability. That could cover a substantial number of courts. There are two important requisites here: One, that the recorded tape be constantly monitored; second, a capable transcriber.

As to direct recording, I suggest little or no heed be paid to old arguments usually presented by NSRA and USCRA. Tests to which they refer were made either by organizations retained by them, or many of their comments are taken out of context. Besides, the quality of equipment has been vastly improved.

Now to the piece de resistance, the Gimelli voice writing system. Let me first explain how this came to be developed. Some years ago I was retained by various leading court reporting firms to train stenotype reporters. There was a vast shortage.

The first year was fine. I had about 20 excellent applicants. The next year it dwindled to about 10. The next year there were practically none. Yet they needed reporters.

I turned to stenomasking, a very good system, except there was a problem with faulty equipment. Often you would find a blank tape without the reporter's being aware of it. That could be very upsetting.

I then commenced an effort to eliminate these problems. I first took a dual track recorder so the dictation of the voice writer would be on one track and the directly spoken version on another.

To assure there would be no blank tape, I had a separate playback head inserted immediately following the record head so that the voice writer, by monitoring from this playback head, that is the already recorded tape, was assured the recorder was functioning properly.

Sir, I have submitted two statements, one, a report on preservation of testimony and proceedings in the district courts of Massachusetts; the other, the Gimelli voice writing system: An evaluation of a new court reporting technique, which I would appreciate your looking over.

One thing I might mention is that these reports were prepared by groups interested only in objective research, unlike those retained by reporter associations. Stenotype reporters are interested mainly in one thing, maintaining the status quo and keeping the number of qualified persons to a minimum, which certainly is accomplished by retaining their control of appointments.

The Massachusetts report makes reference to a superior court test given in Boston in 1973. Of 32 applicants, 6 of whom were voice writers, only 3 passed, 2 of whom were voice writers. The four voice writers who did not pass were in the top seven, and this after only 3 months of instruction.

I might add stenotypists fought bitterly to have the voice writers excluded from taking these tests. The chief judge's intervention allowed them to take it.

USCRA claims in its statement that voice writing has been around 10 years or more and has made no impact. This is typical of their disregard for facts. First, the reason there are not more voice writers in Federal courts as well as in other courts is that NSRA and USCRA have been successful in keeping them out of the courts.

Incidentally, whoever prepared the explanation of my voice writing method in their statement obviously does not understand it because the description is erroneous.

Also, there are several more voice writers than they are aware of. I recently trained the senior Federal court reporter in New Orleans, who is delighted with the method. Some of the stenomaskers in the courts have switched to my voice writing method.

If these reporters also would check the number of hearings held here on Capitol Hill on Tuesdays, Wednesdays, and Thursdays especially, not Friday, they would frequently note that there are in excess of 75 to 80 hearings a day. If they went further and looked into those hearing rooms and saw who was reporting those hearings, they would see that at least 90 percent of them were reported either by voice writers or by stenomaskers using a backup recorder.

This is a typical example of flexibility effected when control of assignment of reporters is removed from the NSRA and USCRA. It allows more reporters to be available and, in my opinion, more competent reporters.

I therefore have only one question to ask: If voice writers are good enough for Capitol Hill, reporting hearings usually far more difficult than the routine court proceeding, why are they not good enough for the courts?

Thank you, sir.

[The prepared statement and two reports submitted by Mr. Gimelli follow:]

PREPARED STATEMENT OF JOSEPH J. GIMELLI

Mr. Chairman and members of the subcommittee, along with my prepared remarks I have submitted, for your perusal and that of your staff, excerpts from a Report on Preservation of Testimony in Proceedings in the District Courts of Massachusetts, prepared by a committee of judges and clerks headed by the Honorable Franklin N. Flaschner, Chief Justice of the District Courts of Massachusetts, as well as a summary report prepared by the National Center for State Courts entitled "The Gimelli System of Multi-Track Voice Writing: An Evaluation of A New Court Reporting Technique."

I might mention that unlike presentations prepared by persons and organizations with the single-purpose goal of protecting their individual interests, these reports were prepared by dedicated groups deriving no personal gain from the outcome of their research.

I have been a stenotype reporter for more than 45 years, and I am one of the very few persons--if not the only person--who has used all of the methods under discussion today.

Your very capable staff has asked me to cover three specific areas of interest to this subcommittee: my voice writing method, direct recording, and methods of testing for competence. I am grateful for this confinement inasmuch as my covering all facets of our trade would require my preparing a report far more voluminous than I would care to undertake at this time. I would, however, be pleased to respond to questions of committee members or staff regarding other methods of reporting as well as various functions and duties of court reporters.

Because I feel the competence, or lack thereof, of the reporter is of primary importance, I shall touch first on various methods of testing and evaluating competence for reporting and/or transcribing, and at the same time point out that any system is only as good as the person using it.

To illustrate this latter point I can cite my mid-1930s experience, the time I arrived in New York City with my stenotype machine ready to commence a career to which I had long looked forward. It would be well, I thought, to start out with a good secretarial position until I learned my way around and could eventually find a job as a reporter. In my countless interviews over a three-and-one-half-month period, during which time I was unsuccessful in finding employment, the complaint I heard over and over again was, "That machine is no good. We don't want them."

Why was it that the machine--meaning the stenotype machine, of course--was no good? The only way stenotyping was taught at that time was through home study. Most persons would have had difficulty learning the stenotype to achieve an adequate degree of competence in a regular classroom, let alone home study. As a consequence, when they were tested they failed miserably--not because the machine was no good but because the operator was inept. If this same person failed a test while using pencil shorthand, the response would have been, "We can't use you. You can't write shorthand."

Contrast the above with the complaint of various shorthand writers about a year and half later, this at a time I had established myself as a grand jury reporter in the Southern District of New York: "That machine is so

easy that guys like you will glut the market."

I cite the dichotomy in the above examples merely to make the point that the primary consideration should be given the person, not the system. This is not to retreat from my position, however, that certain systems offer many advantages over others; but, be that as it may, as stated earlier, it is not my intention to cover this ground in these prepared remarks.

For many years the National Shorthand Reporters Association gave tests in three categories: a proficiency test with a top speed of Q and A (question and answer) at 200 words per minute; a merit test with a top speed of Q and A at 240 words per minute; a championship test with a top speed of Q and A at 280 words per minute.

The proficiency test proved merely that you could write well-dictated Q and A at 200 words a minute, a speed inadequate for many reporting jobs. It must also be borne in mind that these tests were very carefully dictated by reporters from prepared material, each word clearly enunciated and each sentence clearly inflected to aid the person being tested to punctuate accordingly. If everyone in a court proceeding spoke as these reporters dictate these tests, there is one thing about which we could be positive--tape recorders would quickly replace court reporters.

The NSRA merit and championship tests proved merely that those who passed them had the native aptitude to be exceptional writers and that they worked very hard at the machine. It is my opinion, therefore, that each of these tests is inconclusive and does not necessarily indicate that these individuals would make competent reporters. I

understand that both the proficiency and merit tests have been upgraded, the proficiency to 225 words a minute and the merit to 260 words a minute, and that a vocabulary test is also included.

Various of the states also give tests in order to qualify court reporters for positions in their various courts. Aside from the routine jury charge and Q and A these state exams also include medical dictation, although of necessity the medical content is very limited.

Nevertheless, this segment of the test is the cause of most of the failures, especially if the writer is unfortunate enough to have encountered an area of the medical field with which he has absolutely no familiarity.

By and large, these state examinations at least establish certain minimum standards and, by and large, the reporters who successfully complete them are competent to handle the work they are called upon to do.

As for Federal courts, they have never had an examination of their own aside from two tests which I administered, one about ten years ago plus videotaping a second test some eight years ago. Reporters for these positions were appointed in various ways--by a senior reporter, by a court clerk, or in some cases by a chief judge.

The Administrative Office now does require that an applicant pass the NSRA merit exam or my equivalent exam. The reason for my giving a test is because the NSRA will test only stenotypists. Regardless of the qualifications of reporters using systems other than stenotyping, the stenotype reporters maintain a firm hold on all appointments and have been successful in preventing the

appointment of persons using other methods. This is a matter in which they have been extremely militant. Certainly it is an area which requires drastic change and one over which the Administrative Office should have control rather than the NSRA.

Some ten years ago I was retained by the Administrative Office of the U. S. Courts and the Federal Judicial Center to prepare a report on "Functions of a Court Reporter" and in addition to prepare 12 representative examinations to qualify court reporters. I prepared these examinations with the thought in mind that they qualify a person merely up to minimum requirements. The first of these tests was given in Washington, D.C. I suggested it would be well to invite a small group from the NSRA who might like to observe.

These representative tests included the following, each in segments of approximately five minutes' duration:

Literary matter at 180 words a minute;

Jury charge at 200 words a minute;

Medical dictation at 175 words a minute;

Q and A at 220 words a minute;

Four-voice (the court, a witness and two counsel) at 220 words a minute.

Prior to the above performance segment of the exam the applicants were also given forty sentences containing multiple choice words to test vocabulary, ten sentences to test grammar, and five sentences to test punctuation. Failure to pass this portion of the test was to have disqualified the applicant regardless of his achievement in the dictation.

As I recall, about twenty persons took this test and only three passed it. The top grade was achieved by one of four stenomask reporters. This person, however, was not given the next opening because of pressure brought by various representatives of the NSRA. Instead a stenotypist was appointed, despite his having failed the language portion of the examination.

Numerous complaints by members of the NSRA followed claiming that the test was too difficult and unfair and that it was not properly given. Contrast this reaction to that of the stenomask operator who was bypassed for the court appointment: "I couldn't believe a Federal court exam could be so easy." I might point out that despite their protests, the NSRA increased its proficiency test speeds to their present level.

It is my very strong recommendation that examinations to qualify applicants for Federal court positions should be continued, that stenomaskers and voice writers should be included, and, as stated earlier, there should be a more equitable method of selecting qualified applicants, regardless of method, supervised by the Administrative Office.

So much for testing of reporters for court reporting positions. To qualify reporters for my own organization, which handles predominantly congressional hearings--or even if I were to qualify applicants for training for any other organization--the procedure is quite different.

There is first a personal interview to inquire into general background, to observe the manner in which the person expresses himself, and that person's willingness to work hard. If the applicant for training--or the reporter

seeking employment--can type at least 80 words a minute, he is given the next part of the test.

This consists of transcribing a directly-recorded tape of an opening statement spoken extemporaneously by a Member of Congress, who was serving as chairman of a newly-formed special committee, giving his explanation of the function to be performed by this committee. The prospective reporter is asked to listen to the statement for several minutes (the statement is approximately ten pages in length), get the gist of what is being said, then go back to the beginning of the tape and type it.

The chairman's statement contains a number of grammatical errors, a number of false starts, and several garbled sentences. The transcriber is asked to type the statement in as grammatical a form as if it had been properly prepared rather than spoken extemporaneously.

The above shows me several things: first, the transcriber's typing ability; second, whether the typist can spell; third, the typist's ability to comprehend; and, fourth, whether this person can reflect that comprehension with correct construction of what is being said (in other words, the intent of the speaker) and get it on paper. In my opinion, proper construction of the spoken word in order faithfully to reflect the intent of the speaker is one of the primary functions of a competent reporter.

I consider an applicant for training in voice writing who passes the above test qualified to receive training. If I feel I want to go a step further, I use the directly-recorded tape of a well-known Senator during the interrogation of a witness. The instruction given the transcriber is the same here as it was for the previous

tape. The few persons who pass this test with flying colors are those I am anxious to train and retain as part of my own staff.

Voice writing: This is a method which I developed and patented about eight years ago. This was during a time when, because of an acute shortage of competent stenotypists, I had been retained by all of the leading court reporting firms in Washington to recruit and train stenotype reporters. This worked very well the first year during which time I had about twenty excellent trainees, not as well the second year when the number dropped to about a dozen, and not well at all the third year when the number dwindled to about a half dozen and the quality of the trainees was somewhat below my standards.

During my recruiting process I encountered quite a number of persons who met all the requisites for becoming good reporters except that I felt they lacked either the native aptitude required to become stenotype reporters or they were beyond the acceptable age level to achieve the speed required for reporting.

It was at this time I felt the need to develop a more viable system which would enable these people to become reporters. The voice writing method is adequately described in one of my submissions, so I will not elaborate here except to give you a brief description of how the system works.

Voice writing is actually an enhancement of the stenomask method, the name "stenomask" having derived from the fact that the reporter used a mask to cover his nose and mouth so that he would not be heard as he dictated rather than wrote the spoken word. This dictation was

then recorded on a disc (and later on tape as tape transcribers were developed) and transcribed therefrom.

With a competent reporter the system worked very well except for one rather serious defect--occasionally wax would clog the recording needle and there would be nothing on the disc. It was possible for this same defect to occur on tape recorders which did not enable the reporter to monitor the recorded tape; that is, the recorder would appear to be functioning properly but the operator wound up with a blank tape. It is difficult to describe the feeling experienced by the reporter who suffered through such an occurrence.

To overcome these problems, and further to enhance the system, I first sought a reliable dual-track tape recorder so that the reporter's dictation would be on one track and the directly-spoken version recorded, through an open microphone, on the second track. Thus the dictation of the reporter was recorded side by side with the voices of participants in a proceeding.

In order to assure that there was no malfunction and that the tape was constantly recording, I had the tape recorder adapted with a separate playback head immediately next to the record head. With this configuration, then, it was possible for the reporter, when monitoring from the playback head, to assure himself that the equipment was functioning properly because the reporter was monitoring the already-recorded tape. There was one additional advantage offered by this configuration; that is, it was possible to increase the playback volume without increasing the record volume so that if a speaker was

difficult to hear, by increasing the playback volume the reporter's ability to hear was enhanced.

It should be noted that this method is also utilized with a multi-track recorder. It might also be noted that a number of very fine portable recorders with a configuration to utilize the Gimelli voice writing method are now on the market, several of them lighter than a stenotype machine.

There are numerous major advantages to this system:

1. Rapid reporter training to achieve high proficiency levels.
2. Recruitment and training of well-educated persons with sound grounding in language comprehension who might not have the aptitude nor the desire to learn stenotyping, and who thereby would otherwise be foreclosed from becoming reporters.
3. Dictation can be transcribed by a transcriber usually with more facility than reading stenotype notes which often may be merely a hodge-podge, especially if proceedings were beyond the ability of the stenotypist to record.
4. Positive verification of proceedings by comparing the typewritten record with the directly-recorded version. This is not possible with stenotype notes inasmuch as these notes can always be rewritten to conform with the typewritten transcript.
5. Rapid transcript production.
6. Rapid dictation is no problem.

Unfortunately, there are some problems which have surfaced with the development of the voice writing method, just as there were as a consequence of stenomasking.

Because the voice writing method is easy to understand, all too many persons ill-equipped to perform the function of a reporter--with no evaluation for aptitude and without training--have merely gone out and purchased the necessary equipment and put themselves in business.

First, it is obvious that these persons have infringed a patented method. Second, as was the case in the early days of the stenotype, when a bad job is turned in by these individuals--as is almost always the case--the method rather than the individual is blamed. This problem can be eliminated only if there is a demand by a potential user of a voice writer's services that a bona fide certificate of competence be produced.

Direct recording: This is a method whereby voices of participants in a proceeding are merely recorded with the use of a microphone or multiple microphones on to a tape recorder. In a number of courtrooms multi-track recorders utilizing multiple microphones have been put into place with each of the participants using a separate microphone. This is an effort to permit better identification of the various speakers. An attendant can monitor the recording and at the same time prepare a log indexing various events, the time at which they occur, and spelling names which might occur during the proceeding. A transcriber then types from this directly-recorded tape. Very frankly, for most court proceedings the only thing that can be said for this method is that it is better than having an incompetent stenotypist.

It is difficult for a person who has not tried to transcribe from a directly-recorded tape to understand why this is not one of the most efficient methods to use. I

might at this point cite the experience of the Massachusetts ad hoc committee and Chief Justice Flaschner. Despite his having found the Gimelli voice writing method to be superior to all other tested methods, he was concerned that his recommendation to utilize voice writers for the number of additional reporters required to fill newly-created openings would be turned down by the State legislature because of the salaries which would have to be paid these reporters, and a desire on the part of the legislature to save money. In the interest of cutting costs, therefore, he recommended the use of direct recording equipment.

To his dismay and that of his committee, the State legislature turned down his request because it did not create additional jobs. He informed me that had he recommended his first choice of voice writers it would readily have passed.

In any event, a number of courtrooms were equipped with multi-track tape recorders. Lawyers were elated when they were informed they would be provided with cassettes of proceedings. Obviously they felt it would be a simple procedure to have their secretaries produce transcripts from those tapes. It was only a matter of weeks before those same lawyers went back to utilizing the services of the voice writers who had been reporting the proceedings of those courts, and requests for cassettes were practically non-existent.

There are many reasons it is difficult to transcribe from cold tape. First, many witnesses, lawyers and judges do not speak clearly enough to be understood or loud enough to be heard, and there is not a reporter present to

ask them to speak up or to ask that a statement be repeated. Also quite often an experienced reporter, despite the fact he does not clearly hear various statements of counsel or the witness, knows what is said only because of his extensive background and comprehension. In addition, the reporter present at the proceeding has the advantage of a third dimension, that of being able to look at the speakers, and even with this advantage often has difficulty understanding some of the witnesses.

Direct recording has been tried at many of the grand jury proceedings in Washington and found to be totally unacceptable because in all too many cases it was impossible to understand and transcribe the tapes. Very often a key word or phrase is completely inaudible, and the transcriber has no alternative but to type "(inaudible)." In fact, even a reporter looking directly at various of the witnesses often has difficulty understanding.

Another problem is that even with a tape of acceptable quality, the operator has to constantly stop and start because he cannot keep up with the speed. This creates difficulty in following context and intent, and as a consequence transcripts produced from these tapes are often very badly punctuated, if not completely distorted.

Production is often unsatisfactory, especially if the operator must constantly reverse the tape in an effort to understand words unclearly spoken and certain other areas which may be completely inaudible. Obviously, where you have persons who are well-spoken and adequately identified direct recording is perfectly adequate--if, that is, the

CONTINUED

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tape is transcribed by a competent transcriber. To find one of these creatures is no easy task.

There is one final area I would like to touch on very briefly, the matter of remuneration for competent court reporters. With the advent of stenomasking, direct recording, and, yes, even voice writing when practiced by those who are inept, a great number of persons woefully lacking in competence have been encouraged to enter the trade. Many of these people are willing to work at considerably lower rates than those charged by legitimate firms and individual court reporters; and, sad to note, their services continue to be utilized merely on the basis of their charging a lower rate.

This is most unfortunate because it is discouraging those who have the equipment and background to be competent reporters from entering the field. I hope you will not permit this to happen because if this trend is allowed to continue it is a clear signal that both the legislative and judicial branches of our government are willing not only to accept but to reward mediocrity. In fact, transcripts are being accepted which are at times so badly distorted, frequently large segments of statements completely missing, so as to be rendered completely useless.

I have occasion to test a great number of people who seek training and employment as reporters and/or transcribers, many of them well-paid legal secretaries, others with degrees in history, English, political science, just to mention a few. From such a select group I may find one or two out of fifty I feel are acceptable for training--unless, that is, I am willing to drastically

reduce my standards. Our efforts should be directed toward improving, not diminishing, the quality of transcripts and reporters and transcribers who produce them.

Thank you, Mr. Chairman, for giving me this opportunity to appear.

THE GIMELLI SYSTEM OF MULTI-TRACK VOICE WRITING:
AN EVALUATION OF A NEW COURT REPORTING TECHNIQUE*

ABSTRACT

Increased problems with traditional court reporting services, including rising costs, delays in transcript production, and manpower shortages of competent court reporters are causing courts to seek new alternatives to obtain official records of proceedings.

This project evaluated and demonstrated the feasibility of multi-track voice writing as a court reporting system. Multi-track voice writing combines the use of electronic recording with a professionally trained voice writer. The voice writer dictates in court the official verbatim record of proceedings on tape and the voices of participants are simultaneously recorded on the same tape. Twenty applicants completed a three-month training program, and achieved excellent levels of proficiency on several state and Federal court reporter examinations. In addition, these voice writers were evaluated by judges in seven states, and judicial reaction was strongly favorable. Comparison of voice writing to stenotyping indicated several potential advantages to voice writing including: (1) lower transcript costs; (2) faster pro-

*A summary report of the U.S. Department of Justice, Law Enforcement Assistance Administration, National Institute of Law Enforcement and Criminal Justice.

duction of transcripts; (3) faster training and higher proficiency levels of new reporters; (4) better court control of transcript process; and (5) independent verification of the record. Included is a syllabus of the training curriculum and recommended revisions for future training programs. This report concludes that multi-track voice writing is a practical alternative offering several unique features to improve court reporting services by eliminating transcript delays while attaining high transcript standards.

EXECUTIVE SUMMARY

Objectives

The study had the following objectives:

- . to evaluate the competence and proficiency of trainees in the Gimelli voice writer training program
- . to coordinate with several state courts an in-court field evaluation of these trainees
- . to compare multi-track voice writing to court reporting techniques presently in use
- . to determine the strengths and weaknesses of multi-track voice writing

Multi-Track Voice Writing

A voice writer does not use manual shorthand or a stenotype machine; instead a multi-track tape recorder and standard microphones are used. The voice writer dictates the official verbatim record of proceedings in final form: all information necessary for the final transcript, including identification of participants, punctuation, non-verbal activities of participants, and other information required to produce the official transcript, is captured on tape in the voice writer's stylized diction.

The voice writer's whispered speech is recorded on one channel of a multi-track tape system. The reporter may use an ordinary microphone, or a microphone with a voice suppressor, into which he dictates softly in a specially-cultivated manner. The voices of the participants in a court proceeding are simultaneously recorded on another track (or tracks) of a multi-track system. The second track (in a two-track system) receives courtroom sounds by means of a microphone mixer. Microphones are placed before different speakers (judge, counsel, witness, etc.); each microphone can be monitored and adjusted by the voice writer. Thus, the court has available for replay the voice writer's official court record and the voices of all participating speakers.

Should anyone question the official transcript, one need merely listen to Track Two of the tape to verify what was said.

The tape recorder is equipped with separate recording and playback heads; the latter head spaced away from the record head to permit slightly delayed replay. This enables the voice writer to monitor continuously the adequacy of the audio record, to ensure that the voice writer's dictation and the actual courtroom voices are on the magnetic tape; if a speaker is difficult to hear, the voice writer can adjust the volume on the speaker's microphone.

The audio record can be used as the official record of the proceeding without preparing a transcript. However, if a transcript is required, the court is not necessarily dependent upon the voice writer to prepare the transcript; transcript can be prepared from the voice writer's audio record by a capable typist with a minimum of training.

The multi-track voice writing system should not be confused with the stenomask system. While both require an operator skilled in dictation, voice writing is a refinement of the stenomask

technique. The voice writer does not use any mask (although a voice suppressor may be used), a multi-track tape system is used instead of a single track recorder, and completion of a four to five month training program is required to reach dictation proficiency and learn courtroom procedures and nomenclature.

Training Program

Twenty-two persons were selected to attend a three month voice writer training program. Trainees were selected from four metropolitan areas based on personal interviews and a qualification examination measuring verbal comprehension, grammar, spelling and punctuation skills. While there were no mandatory educational requirements, the average trainee had a baccalaureate degree but had no previous court reporting experience.

The trainees received classroom instruction in various court reporting skills including: dictation techniques, transcribing, legal and medical terminology, operation and maintenance of electronic recording equipment, court procedures and policies, and preparation of transcripts. In addition, trainees practiced after class on their deficiencies.

Curriculum changes were recommended for future voice writer training programs; in particular, greater emphasis on actual court observation and reporting experience in a court, intensive technical training on the operation and repair of the recording equipment, and additional classroom instruction on court procedures and nomenclature.

Course Evaluation

Several state and Federal court reporter examinations, including New York Supreme Court, New Jersey, and Federal tests, were administered to all trainees at the completion of the

classroom instruction. In addition, several trainees took the certified court reporters examination given by the Massachusetts Superior Court.

The results achieved by trainees on all the examinations were excellent. On the New Jersey examination, all graduates attained final grades surpassing 97.5% with an average score of 99.1%. The New York examination results were comparable with an average final score of 98.7%, and the Federal court reporter qualification test results were also impressive with voice writers averaging 98.8%. These examinations measured court reporting skills at 220 words per minute for four voice testimony and 200 words per minute for single voice testimony. Of thirty-two applicants, including six voice writers, who took the Massachusetts certified court reporters examination, six voice writers were among the top seven applicants.

These results indicated that these voice writers met and surpassed present certified court reporting standards.

Field Evaluation

In the field evaluation phases of this project, fourteen voice writers were assigned to work as court reporters for judges in seven states. With one exception, there was unanimous agreement among the judges that the quality and preparation time of the transcripts produced by voice writers were equal to or better than stenotypists.

The judges also agreed that the demeanor of the voice writers was appropriate, and that the use of this new technique in the courtroom caused no disturbance nor required any changes in courtroom procedures. Attorneys were not disturbed by the technique, found the quality of transcript good, and liked the

capability to independently verify the court reporter's transcript.

Judges strongly approved of the multi-track recording; in particular, the ability to verify the voice writer's official record by listening to the actual voices of the participants on a separate track of the tape. The two recordings - the voice writer's record and the voices of the participants - provide a backup for each other. Although the judges were unanimous in their approval of the backup and verification features several stenotypists rated it as useless.

The greatest number of criticisms and suggestions for improvements were in the area of training. Although most judges agreed that the voice writers were well trained in the actual technique of voice writing, there were three areas where it was felt additional training should have been provided:

- . technical problems related to the equipment
- . knowledge of judicial environments and proceedings
- . actual in-court practice.

The overall assessment of the voice writing technique by those who worked with it was strongly favorable. The quality of the transcripts provided was at least as good as stenotype transcripts. Most judges indicated that if they had an opportunity to employ a voice writer in the future, they would be inclined to do so. The results of this field evaluation are encouraging, and indicate that this new technique of recording judicial proceedings is a viable alternative to those methods currently being used.

Conclusions and Recommendations

Based on a six month evaluation of multi-track voice writing, it is concluded that:

- . Multi-track voice writing is a practical court reporting technique.
- . The graduates of this voice writing training program attained better court reporting examination scores than most graduates of stenotype schools.
- . After a few months of experience in courts, voice writers are comparable in ability to experienced stenotype court reporters.
- . Voice writers can be trained in less than six months compared with a minimum of 24 months for stenotypists.
- . The transcripts produced by voice writers are equivalent to, or better than, transcripts prepared by experienced stenotype court reporters.
- . Voice writing permits the court to control more easily the official record and production of transcripts.
- . Voice writing provides the court with the alternative of two types of official record of proceedings: audio record or transcript.
- . Voice writers should be equipped with reliable and portable tape recording systems.

Based on an evaluation of this particular voice writer training program, it is concluded that:

Performance

- . Voice writers can be trained within six months to become competent court reporters.
- . Trainees achieved high levels of proficiency on several state and Federal reporter examinations.
- . Trainees received strongly favorable comments from judges who observed voice writer reporting in the courtroom.
- . The recording equipment selected met equipment standards, but additional evaluation and testing of other audio equipment should be done.

Curriculum

- . Trainees should complete a minimum of twelve weeks of classroom instruction.
- . Trainees should be required to practice under actual courtroom conditions for a minimum of four weeks.
- . Trainees should be instructed by persons who have experience in recording courtroom proceedings and who have been certificated by Mr. Gimelli to teach the voice-writing technique.
- . Qualified applicants for a voice writer train-

ing program should possess strong language skills.

Compared with stenotype or shorthand court reporting the multi-track voice writer technique provides:

- . Greater availability of reporter's time in the courtroom
- . Fewer steps in transcript preparation
- . Availability of independent verification of the reporter's record
- . Court control of the transcript process (costs, quality, and time)
- . Potentially lower manpower and transcription costs
- . Capability for recording non-English speaking participants
- . Greater frequency of equipment problems caused by electronic malfunctions.

Presently, many statutes and court policies do not permit courts to take advantage of the voice writing technique. Competence in reporting should be determined by the final product, the official record, not the techniques used to record proceedings.

Statutes and court rules should be altered:

- . To change qualification exams from certified shorthand reporter examinations to certified court reporter examinations

- . To permit any competent reporter, regardless of reporting technique, to become an official court reporter
- . To raise required proficiency levels of court reporters.

[The following material submitted by Mr. Gimelli contains excerpts from volume I of a "Report on Preservation of Testimony in Proceedings in the District Court of Massachusetts," November 30, 1973, and is prefaced by a letter from Chief Justice Franklin N. Flaschner:]



District Courts of Massachusetts
COURT HOUSE
WEST NEWTON, MASSACHUSETTS 02165

In April, 1972, I appointed a committee of judges and clerks to examine the feasibility of several alternate systems to preserve testimony in District Court proceedings. The objective was the development of a comprehensive plan for an integrated, uniform system, applicable to all 72 District Courts under my jurisdiction. The committee has made an exhaustive and exceedingly competent investigation. Its work has enabled me to make this report to the Supreme Judicial Court of the Commonwealth. It is my hope that the District Courts will very shortly be equipped for the routine recording and reproduction of testimony in all proceedings, civil, criminal and juvenile.

This is Volume I of two volumes. Volume II contains the committee's report to me and certain appendices attached to it. Frequent reference is made to it in Volume I. Because of the bulk of the materials contained in Volume II, however, it has not been printed for general distribution. Its contents are listed in detail under "C" in the Supplementary Documents at the end of this volume. Particular items so listed will be made available on specific request to the Administrative Office of the District Courts, at the address above.

A special word of thanks is due the Committee on Criminal Justice, which is the Law Enforcement Assistance Administration state planning agency in the Commonwealth. Its encouragement

and cooperation in funding the staff component of this project and its continued assistance in the preliminary implementation of the recommendations are gratefully acknowledged on behalf of all those interested in maintaining the highest standards of judicial administration in the District Courts of the Commonwealth.

Franklin N. Flaschner

Franklin N. Flaschner
Chief Justice
District Courts of Massachusetts

November 30, 1973

* How much would it cost to staff the District Courts with stenographers if they were available?

To examine these and other questions, the committee was aided greatly by leading members of the National Shorthand Reporters Association and the Massachusetts Shorthand Reporters Association, who generously offered their time and assistance, and also by the National Center for State Courts which has been doing research in this area. A good deal of enlightening literature was also reviewed. Local stenography schools were consulted, and the office of the Chief Justice of Superior Court was helpful in supplying information on the current use of stenographers in that court.

The standard expected of stenographers is verbatim reporting, or reporting accurately what is said. A good statement of the rule appears in Section 2(g) of the Superior Court Regulations Governing Court Reporters, dated May 14, 1973, at page 6. The rules read:

It is the duty of court reporters to take verbatim all that is said during every court proceeding, including reference to all exhibits, and, when a transcript is ordered, to accurately

transcribe the notes verbatim without editing or correcting what was said.⁶

The underscorings are as they appear in the rules.

Yet there is some question as to whether all stenographers view strict verbatim reporting as their proper role. There is a school of thought among stenographers that, because of the sometimes sloppy, grammatically incorrect and inadvertently incomplete way in which many if not most persons speak, the stenographer's role is to "clean up" the spoken words to the extent reasonably possible, without, of course, changing the meaning of what was said. A good statement in this regard is found in Gimelli, Court Reporter Functions, Qualifications and Work Standards, prepared in November, 1972 for the Administrative Office of the United States Courts and the Federal Judicial Center. Mr. Gimelli points out that, "As applied in the field of shorthand reporting, the term 'verbatim transcript' means the recording of the spoken word in a form which faithfully reflects that which has been spoken."

Going on, he says:

What is adequate for the judge and counsel in order to comprehend what is said in the course of a trial is not adequate for the court reporter if he is to make an accurate verbatim transcript of the proceedings. . . . An important function of the reporter, then, is to exercise judgment in clarifying the speaker's intent and meaning, frequently disregarding his literal manner of speaking.

In examining the accuracy of stenographers' transcripts, the committee used as its standard contemporaneously made audio recordings. In two tests using stenographers supplied by the

⁶This provision did not appear in earlier Superior Court rules.

Massachusetts Shorthand Reporters Association, 224 and 85 errors respectively were found in 49 pages of reporting. In third and fourth tests utilizing a freelance shorthand reporter (a shorthand school graduate), 619 errors were found in 51 pages, and 422 errors in 13 pages. Errors included wrong words and missing words. (App. H, 7-8, 29).

The appearance of mistakes in the record is a product of at least two factors; first, the skill and training of the reporter; and second, the very introduction into the reporting process of a human agency. Skill and training vary among reporters. This is the reason a certification process must be established, as has been done in Superior Court, to insure that only the best stenographers are permitted to report courtroom proceedings. But introduction of a human being carries with it the likelihood of error, particularly if the reporter is fatigued, ill or otherwise not working at an optimum level. It is simply a product of the human condition. A third contributing factor is the tendency of some reporters, noted above, to "clean up" speech and present a more readable transcript.

THERE ARE AN INSUFFICIENT NUMBER OF STENOGRAPHERS AVAILABLE TO PRESERVE TESTIMONY ROUTINELY IN THE DISTRICT COURTS.

The scarcity of stenographers which the Supreme Judicial Court recognized in its release of July 14, 1972, is legend, not only here but throughout the nation, and seems a product of several factors. (Comm. Rpt., 35).

First, stenographer training is rigorous. It normally takes place over a two year period. Many persons who begin their training never complete it.

Second, a competent stenographer must have good language abilities, which normally requires a sound educational background. Not all applicants meet this test.

Third, not all trainees can achieve the necessary speed for courtroom reporting. In Massachusetts prospective court stenographers must achieve the following proficiency levels:

1. Q & A (readback only): 200 w.p.m. for 5 minutes
2. Medical Q & A: 175 w.p.m. for 5 minutes
3. 4-voice testimony: 200 w.p.m. for 5 minutes
4. Closing argument: 170 w.p.m. for 5 minutes
5. Jury charge: 180 w.p.m. for 5 minutes

The pass-fail rate among applicants for the position of official Superior Court stenographer is instructive on the availability of courtroom stenographers. Of 32 applicants who began the Superior Court examination in June, 1973, only three--10%--passed.⁸ So notwithstanding proper education, training and experience, the number of qualified courtroom stenographers remains small.

There is one other critical factor which must be considered in assessing the availability of stenographers. That is a recognition that courtroom stenography is not necessarily the ultimate professional recognition towards which all stenographers strive. It is generally acknowledged that a stenographer may earn more free-lancing than working in court, and so the court option is not necessarily the most attractive, particularly among the more

⁸Of the three, however, only one was a stenographer. The other two were voice reporters.

skillful stenographers who could qualify for court work.

VOICE REPORTING. In January, 1973, when the committee was substantially along in its work, it learned of a new reporting system known as voice reporting or voice writing. The system is akin to stenography, but involves the in-court use of both a live reporter and an audio recorder. In this system, a reporter utilizes a two-channel audio recorder as his medium of "taking notes." By way of a small, hand-held microphone the reporter repeats softly onto one track of the recorder all of the testimony immediately as it is presented in court, while the other track records the actual testimony "live" by way of microphones in the courtroom. The reporter can then type a transcript from the "dictation" on the first track, using the second track as a back-up system if necessary, or have someone else type the transcript for him.

The originator of this novel system,¹⁰ Mr. Joseph Gimelli, Chief, Official Reporters to Committees, United States House of Representatives, visited Boston to demonstrate the technique and met with the committee. While a handful of persons had been trained in the use of the technique by Mr. Gimelli, substantial training of persons was then only being discussed between Mr. Gimelli and the National Center for State Courts, which had exhibited some interest in funding a project to train a limited number of

¹⁰The voice reporter system bears some resemblance to the steno-mask system, sold by Talk, Inc. of Westbury, N.Y. and used mainly in military courts. In the latter system the reporter repeats the testimony into a microphone encased in an insulated mask. Aside from certain disadvantages in using the mask, the main difference in the systems is the existence in the voice reporting system of the back-up track on which is recorded live the actual courtroom proceedings.

voice reporters in order to determine whether the technique offered a possible solution to the nationwide shortage of qualified court reporters. When the National Center project became a reality, Massachusetts' interest in the technique was recognized and the committee was permitted to send several trainees to Washington, D.C. for a three-month training program. Mr. Gimelli visited the Boston area again and administered a test to applicants at the District Court of Newton. Of 11 applicants, five were accepted and attended the Washington, D.C. training program, three from the District Courts and two from Superior Court.

Upon their return from Washington, D.C. the District Court trainees were evaluated by the committee by assigning them to report testimony in a large number of District Courts. The reporters were interviewed periodically and their transcripts compared for accuracy with audio recordings and stenographic transcripts.¹¹

The committee wished to resolve the following issues:

- * How much time and what kind of training is necessary to produce competent voice reporters?
- * How accurate are their transcripts?
- * What advantages, if any, does voice reporting offer over stenography and audio recording?
- * How do the judges react to the voice reporters?
- * If the system works, how much does it cost?

¹¹ A complete and fully documented evaluation of voice reporting may be found in Multi-Track Voice Writing: An Evaluation of A New Court Reporting Technique, National Center for State Courts (October, 1973).

IT APPEARS THAT VOICE REPORTERS CAN BE TRAINED IN VERY LITTLE TIME.

The committee sent three persons to Washington, D.C. to participate in the three-month voice reporter training program. Their backgrounds are set forth at pages 4-6 of "H" in the appendix. One was a qualified secretary and administrative assistant in a District Court; a second was a junior college graduate, familiar generally with court proceedings; and a third had two years of college and was unfamiliar with court proceedings. The qualifications specified as skills or attributes an applicant should possess for the training program were broad vocabulary, good understanding of grammar and punctuation, spelling, clarity of expression, typing, enunciation, maturity and interest in court reporting. Each applicant was interviewed carefully by Mr. Gimelli and the National Center.

The trainees were taught the voice reporting method, and built up their skill and speed. The subjects on which trainees received instruction included dictation techniques, typing, transcription from the student's own dictation as well as that of other students, transcript format and various transcription forms, legal and medical terminology as well as language peculiar to courtroom use, use of equipment, practice methods, keeping a log of court proceedings, punctuation and sentence construction and attendance in court and discussions with working reporters. When the trainees returned to Massachusetts they were for three months assigned to sit in a variety of District Courts, in different kinds of sessions. The committee felt they could have benefited from more training in court procedure, but they learned quickly

through on-the-job experience those things necessary to their work.

While still in Washington, D.C. each of the District Court voice reporters took and passed the New York and New Jersey qualifying examinations for courtroom reporters, as well as a test given by Mr. Gimelli. On June 16, 1973, six voice reporters, including three District Court trainees, took the Massachusetts examination for certification as a Superior Court stenographer. Of the 32 applicants for the examination, two voice reporters and one stenographer passed. The committee is informed also that the four voice reporters who did not pass finished within the top seven taking the examination.

It seems plain that voice reporters can be competently trained in a very short period. (Comm. Rpt., 36). It remains to be seen, however, whether sufficient numbers of qualified applicants will come forth for such training, and what their qualifications will have to be.

TRANSCRIPTS PRODUCED BY COMPETENT VOICE REPORTERS CAN BE EXPECTED TO BE AS ACCURATE OR MORE SO THAN THOSE PREPARED BY COMPETENT STENOGRAPHERS.

In comparing three transcripts made by the District Court voice reporters with transcripts made in the same cases by stenographers, two contained fewer errors than the stenographers and one contained more. It thus seems that the transcripts can be as accurate or even more so than stenographers' transcripts. (Comm. Rpt., 36). In a fourth test, comprising 13 pages of transcript, 15 errors were found in the voice reporter's transcript, compared to 422 in the stenographer's.

In the final analysis, of course, the accuracy of any transcript will depend for the most part on the competence of the reporter. The only point to be made is that the voice reporting method is at least as good and perhaps a better technique compared to traditional pen or pencil stenography or stenotyping.

Voice reporting does offer one notable advantage to stenographic reporting, however, and that is the existence of the directly-recorded courtroom recording on one track of the tape. This permits in most cases correction of any errors which the voice reporter makes in his simultaneous "dictation." In one test conducted by the committee, a voice reporter was permitted to use only the "dictated" track of the tape in transcribing. 165 errors were found. When the reporter was allowed to use at her discretion track two as well, the errors were reduced to 30. So the live "back up" track is of distinct advantage, although it is only a single track recording and thus itself suffers from the limitations of all single track recordings (see page 16).

VOICE REPORTING HOLDS THE PROMISE OF FAST TRANSCRIPT PREPARATION.

One reason why it has often been the practice for a court stenographer to dictate his notes into a tape recorder and then give the tape to a typist, is because there are few typists who can accurately read the stenographer's notes directly. This is because they are not familiar with the stenograph or stenotype technique in general, and with each reporter's distinctive style in particular. It was believed that voice reporting would remove the necessity for re-dictating notes into a tape recorder, since

the voice reporter would already have "dictated" the testimony onto one track of the recorder. The savings in time such a procedure would bring are obvious. It would eliminate completely the need to re-dictate entire transcripts.

The committee's results in this regard are guardedly optimistic, but not conclusive. It required that portions of voice reporters' tapes be transcribed by an independent clerical typist. In one case the typist had practically no problems typing directly from the reporter's dictation. In two other cases, however, the typist found it difficult to understand everything the reporter had dictated. The typist noted, however, that if she had been more familiar with the voices of the reporters the problems would have been overcome. Whether this means that as a rule typists for voice reporters must be familiar with the particular reporter's voice, thereby adding a degree of inflexibility to the arrangement, or that voice reporters will simply have to make their dictation clearer, is not yet known.

THE VOICE REPORTER CAN BE COMPARED TO THE STENOGRAPHER IN TERMS OF HIS ROLE IN THE COURTROOM. HE IS NO MORE OBTRUSIVE IN COURTROOM PROCEEDINGS THAN THE STENOGRAPHER.

While the microphones in the courtroom quickly distinguish the voice reporter from the stenographer, each plays essentially the same function in the courtroom. The voice reporter is as unobtrusive as the traditional stenographer, and generally sits at the same place and plays the same role. The reactions of judges and clerks exposed to the system were quite positive (see pages 19-23 of "H" in the appendix). The only noticeable

difference is in courtroom readback. There, the stenographer can perform more efficiently. It takes the voice reporter a bit longer to locate the desired portion of the tape, and after "reading it" back relocate his own place on the tape.

During the voice reporter experiments the reporters isolated a number of specific problems that arose as a result of their reporting in many District Courts. These are listed at pages 15-18 of "H" in the appendix. For the most part the problems were the result of proceedings that were not sufficiently orderly for preservation of testimony. This has been mentioned earlier at pages 27 and 51 in regard to the other systems examined. For voice reporting, as with audio or video recording or stenography, courtroom discipline is a necessary prerequisite to an adequate record.

Senator DOLE. I might note for the record that I think the young lady who is reporting this hearing today is using your method.

Mr. GIMELLI. My method, right.

Senator DOLE. I assume it will be accurately transcribed.

Mr. GIMELLI. There is no question about it, Senator Dole.

Senator DOLE. Either that or somebody is going to be out of work.

Mr. Peppey?

STATEMENT OF RICHARD E. PEPPEY, PAST PRESIDENT, NATIONAL SHORTHAND REPORTERS ASSOCIATION, MILWAUKEE, WIS.

Mr. PEPPEY. Mr. Chairman, I would like to summarize and expand on a few remarks in my prepared statement. My name is Richard Peppey. I am past president of the National Shorthand Reporters Association. I am also an official reporter with the U.S. District Court for the Eastern District of Wisconsin.

The National Shorthand Reporters Association, founded in 1899, today represents more than 18,500 official and freelance court reporters in the United States. Some of the objectives of the association are to foster a scientific spirit in the profession, to secure the maintenance of a proper standard of efficiency and compensation, to enlighten the public as to the importance and value of the services performed by the competent shorthand reporter, and to promote and maintain proper laws relating to shorthand reporting.

Recognizing the need for uniform national standards of competency, and because many NSRA members desired improved professional certification, the association established the registered professional reporter program in 1975. There are now more than 10,000 RPR's who have been certified. Retention of the RPR certification requires participation in a continuing education program.

NSRA has done, and is continuing to do, a tremendous amount of research into this subcommittee's area of concern. Technology has been the continuing priority of NSRA for the past half decade and will so continue into the foreseeable future.

In an effort to contribute to their expertise, NSRA has become an active participant in the efforts of a number of national political organizations. Details of our activities are included in our written statement.

Therefore, we appear today not only as a representative of court and freelance reporters throughout the country, but also as an organization committed to the efficient and objective administration of justice in our courts.

Electronic recording, in lieu of a live reporter, has been used in limited applications for many years. The early experiments met with little success as the technology, as today, was and is not equal to the task. The proponents of electronic recording have worked on the technology to the point where capturing the sound is not nearly the problem it once was.

The problem area remains in the production of written transcripts from those tapes. That is where reporters have worked to adopt technology, in the area where the real problem exists.

This association does not ignore the existence of electronic recording and has had, since 1979, a publicly stated audio policy which recognizes that those charged with the responsibility of providing court reporting services may at times consider the limited use of audio recording.

The goal of court reporting, as stated earlier, is the protection of the public. I take a sworn oath as an official court reporter to walk into that courtroom and take a record of the proceedings exactly as they occur. Although I work for a judge, although I take orders at times from the court administrator, although the attorneys will make specific demands of me, and although the appellate court has certain rules that it requires me to follow, I am there first and foremost for the protection of the public.

What is a successful system of court reporting? It is one that takes the record accurately and produces high quality written transcripts of that record efficiently and at a reasonable cost.

Over the years, I have witnessed many alternative propositions and technological advances. As a member of the judicial staff, I feel I have a moral obligation to the court and to the citizens to adopt the most effective means available to accomplish my charge. I have done so. Sometimes it is valuable to share the experiences with others who contemplate moderate or drastic changes in a system.

I appear here as a shorthand reporter with more than 25 years of experience, and, based on that experience, I urge you to reject any consideration of audio recording in lieu of a live reporter.

The proponents of audio recording cannot merely advocate their system as an implementation of modern technology. They must convince you that their system is as accurate, as efficient, and less costly than the system that exists. They can make the statement, but I submit to you that the evidence proves otherwise.

Those charged with the administration of court reporting services in the judicial system must be concerned with three standards: Quality, efficiency, and reasonable cost. In applying these stand-

ards, based on the evidence available, one must reach the conclusion that the best, the most efficient, and most cost-effective method of preserving the record is by a shorthand reporter.

Senator, I see that my caution light has come on. I was going to go into a discussion of computer-aided transcription, which I personally utilize in my court. It is something that the official reporters have been reticent to use because it is a relatively new technology. It has become very popular among the freelancers who have a consistent volume, one that most official reporters do not have.

The fact is that because of the technology and the management techniques now available through the work of our association and the vendors that market these products, it is becoming more popular in the courts. It is certainly something that allows the courts to utilize its use in terms of key word research, transcript retrieval, litigation support, and so on.

I would think if the Administrative Office wants to do any experimentation, they should do experimentation with modern technology, computer aided transcription, and not go to electronic recording.

Thank you very much, sir.

[The prepared statement of Mr. Peppy follows:]

PREPARED STATEMENT OF RICHARD E. PEPPEY

Mr. Chairman and Members of the Subcommittee:

My name is Richard Peppy. I am a past president of the National Shorthand Reporters Association and a Fellow of the Board of the Academy of Professional Reporters. I am also an official reporter with the United States District Court for the Eastern District of Wisconsin. Seated with me are two members of the National Association staff -- Charles Hagee, Executive Director, and Jill Wilson, Director of Research and Technology -- who will assist me in answering any questions that members of the Subcommittee may have.

First, I would like to give you a little background on the National Shorthand Reporters Association. Our organization has been in existence for 82 years, having been founded in 1899. The idea of holding a stenographers' day at the Centennial Exposition held in Nashville, Tennessee, in the spring of 1897 was that of Buford Duke and other influential and capable shorthand writers in the South. It was from that first gathering that the interest in forming NSRA stemmed and came to fruition in August 1899. Today we represent more than 18,500 official and freelance court reporters throughout the United States.

The objectives of the Association are: To secure the benefits resulting from organized effort; To promote professional ethics; To foster a scientific spirit in the profession; To secure the maintenance of a proper standard of efficiency and compensation; To enlighten the public as to the importance and value of the services performed by the competent shorthand reporter; To promote and maintain proper laws relating to shorthand reporting; and, in general, To advance the interests of the shorthand reporting profession.

Recognizing the need for uniform national standards of competency, and because many NSRA members desired improved professional certification, the Association established the

Registered Professional Reporter program in 1975. There are now more than 10,000 RPR's who have been certified. The comprehensive examination, given twice a year, is under the supervision of the Board of the Academy of Professional Reporters. This examination consists of a written knowledge test covering areas such as grammar, spelling, punctuation, and medical and legal terminology, plus a three-part skills test at speeds exceeding 180 words per minute on literary matter, jury charge, and two-voice testimony.

Passing this examination is not the end of the RPR program. Every three years, each RPR must accumulate a minimum of 30 continuing education credits through attendance at state and national seminars or by completing approved courses for credit. RPR's are recognized by court officials and law firms as outstanding members of the profession from whom they will receive dependable service and accurate verbatim records.

As you can see from this brief introduction, we are dedicated to maintaining the highest possible standards for our profession. We feel this is essential if we are to insure that an accurate and objective record is kept of legal and legislative proceedings. After all, it is upon this dual foundation that our federalist system of government rests and if this diminished in any way, we place in jeopardy a system of justice which dates back to the Greek city-states.

The necessity for having a live reporter has been nowhere more eloquently expressed than by one of your own members last June 12 and published in the Congressional Record of July 12, 1980. In his speech to the full Senate, Senator Robert Byrd stated, in part, that "the RECORD is a vital instrument of the legislative process without which our work would be nearly impossible. We rely on the RECORD for a complete account of the floor discussion we might have missed. And when we have completed our work, the RECORD preserves the legislative histories to which the courts, long into the future, will refer in determining the Congressional intent behind the laws which we have written ..." I

have attached a copy of his entire statement of that day as one of our exhibits for your consideration.

In the course of this hearing, you will be receiving testimony concerning the pros and cons regarding the use of electronic recording to maintain the record, the arguments for and against reporters maintaining transcript fees, explanations on the effective utilization of computer-aided transcription, and other elements relating to the court reporting profession. NSRA has done and is continuing to do a tremendous amount of research into each of these areas of concern. We devote a large portion of our budget each year to technological research and the continuing education of our membership. Technology has been the continuing theme of NSRA for the past half decade and will continue so into the foreseeable future.

As an example of our commitment to this goal, I have attached copies of our national magazine, NSR, which have been dedicated to enlightening our membership on the advancements in technology. I might also point out that a representative of NSRA served as a participant in the computer-aided transcription study recently completed by the National Center for State Courts and presently serves on the Executive Committee of the Coordinating Council of National Court Organizations. The Association contributed significantly to the Council's first major project, a compendium of ongoing and recently completed research on court management, and will serve as a sponsor of the First National Symposium on Court Management to be held in San Diego, California this September. We have also conducted a detailed study, at our own expense, of the electronic recording system in Alaska (a copy of which is attached) and are in the process of completing a study of computer-aided transcription systems and management strategies. Therefore, we appear today, not only as a representative of court and freelance reporters throughout the country, but also as an organization committed to the efficient and objective administration of justice in our courts.

Therefore, in light of the extensive testimony you will be receiving, I will focus my testimony on two specific areas:

- (1) Electronic recording being used in the courtroom to replace the live reporter; and,
- (2) the technological growth and capabilities of Computer-Aided Transcription (CAT).

ELECTRONIC RECORDING

Electronic recording, in lieu of a live reporter, has been used in limited applications for many years. The early experiments met with little success as the technology was not equal to the task. The proponents of electronic recording have worked on the technology to the point where capturing the sound is not nearly the problem it once was. The problem area remains the production of written transcript from those tapes. That is where reporters have worked to adopt technology -- in the area where the real problem exists.

This Association does not ignore the existence of electronic recording and has had, since 1979, a publicly stated Audio policy. It is as follows:

That NSRA advocates the use of the shorthand reporter as being the most reliable and most efficient means of reporting the proceedings and transcribing the verbatim record.

NSRA recognizes the use of audio recording for reference by the RPR.

Although NSRA advocates the use of the shorthand reporter as being the most reliable and most efficient means of reporting the proceedings and transcribing the verbatim record, it recognizes that those charged with the responsibility of providing court reporting services may at times consider the limited use of audio recording. Whereas such use may be considered adequate by its proponents, it is the position of NSRA that

every litigant is entitled to the maximum protection of his rights through the most reliable and most efficient means available.

A major objective of the shorthand reporting profession, and the import of NSRA policy, is the protection of the public. Consideration of the method used to report the proceedings and to transcribe the verbatim record should meet the objectives of due process, to not only adequately but completely guarantee the protection of the public.

It is, therefore, the position of NSRA that all reporting services should be provided by and under the direct control and supervision of the trained Registered Professional Reporter for the ultimate protection of the public.

Proponents of ER have also made the statement that 50 to 60 percent of the court reporters today use audio to dictate. This is a specious argument because there is a great distinction between an individual dictating directly into a cassette recorder for use by a transcriber and utilization of tape recording without a stenographic record in a busy and frequently noisy court environment. I dictated for many years before I went to a notereader and then to computer-aided transcription. And the fact is that dictation for a transcriber is very clear dictation, with all spelling and punctuation provided. To compare that to an open microphone in a courtroom or hearing is hardly fair or accurate.

The goal of court reporting, as stated earlier, is the protection of the public. I take a sworn oath as an official court reporter to walk into that courtroom and take a record of the proceedings exactly as they occur. Although I work for a judge, although I take orders, at times, from the court administrator, although the attorneys will make specific demands of me, and although the appellate court has certain rules that it

requires me to follow, I am there, first and foremost, for the protection of the public.

And what is a successful system of court reporting? It is one that takes the record accurately and produces high-quality written transcript of that record, efficiently and at a reasonable cost.

Whenever there is a hearing regarding the implementation of electronic recording to replace the shorthand reporter, you can expect the reporter to be present in opposition to the electronic recording proponents and this appearance is immediately branded as "self interest." While there is an obvious economic self-interest, you should recognize that there is an expertise and an obligation that exists within the role of the shorthand reporter. Of all the actors within the judicial system, there is one and only one whose primary responsibility is to record the proceedings and, if necessary, furnish a transcript for the assistance of the court and counsel or for appellate review. It is a heavy responsibility and a crucial public service.

Over the years, I have witnessed many alternative propositions and technological advances. As a member of the judicial staff, I feel I have a moral obligation to the court and to the citizens to adopt the most effective means available to accomplish my charge. I have done so. And sometimes, it is valuable to share experiences with others who contemplate moderate or drastic changes in a system.

I appear here as a shorthand reporter with more than 25 years of experience, and based on that experience, to urge you to reject any consideration of audio recording in lieu of a live reporter. I am sure you recognize that most witnesses testify in their own interest -- that is to be expected. I maintain the proponents of audio recording are here in self interest. They have as vested an economic interest in proposing their system as does the shorthand reporter who opposes them. But setting aside that interest, they

have a substantial burden; they cannot merely advocate their system as an implementation of modern technology. They must convince you that their system is as accurate, as efficient, and less costly than the system that exists. They can make the statement but I submit that the evidence proves otherwise.

Those charged with the administration of court reporting services in the judicial system must be concerned with three standards: quality, efficiency, and reasonable cost. In applying these standards, based on the evidence available, one must reach the conclusion that the best, the most efficient and most cost-effective method of preserving the record is by a shorthand reporter.

In a 1979 decision, Judge Robert Krupansky of the United States District Court for the Northern District of Ohio stated:

In balancing the incalculable deficiencies inherent in the present state of the art of mechanical and/or electronic recordation; its vulnerability to alteration or erasure, inadvertent or otherwise; its propensity to incite interminable confusion and controversy against the claimed financial inability of the petitioner to take depositions by established trustworthy, reliable and accurate stenographic means, this court agrees with the Committee on Rules of Practice and Procedure of the Judicial Conference of the United States that a case has not been made to permit the electronic recording of deposition testimony as a matter of course and concludes that it will continue to insist that deposition testimony be recorded by stenographic means.

In the past, a method often employed by proponents of alternate systems is to attack the shorthand reporting profession as being responsible for the backlog of the courts because of late filing of transcripts. Some suggest this could be overcome by

using new technology -- audio recording. However, in a recent article by Dr. Thomas B. Marvell of the National Center for State Courts and published in the Appellate Court Administrative Review, the author stated:

... appellate court delay problems are the judges' responsibility. Judges are the prime cause of excessive delay, and they have the authority and means to reduce it. The blame, all too often, is attributed ... to the court reporters (p. 28)

I do not know of an instance where any electronic recording device has been utilized to produce a transcript as quickly as a stenographic record. I can state with certainty that a typist required to transcribe from a recording made from an open microphone in a courtroom could never produce more efficiently than a shorthand reporter whether the reporter dictated, used a notereader or used computer-aided transcription.

Another factor that must be considered is the necessary equipment to make the system acceptably efficient. A recording device is required for each courtroom and good management requires some backup equipment in case of malfunction. But what of in-chambers proceedings? And what about transcribing devices?

Virtually all proponents of electronic recording advocate that a monitor be assigned to the courtroom to insure that the system is functioning and to keep a running "log" of speakers, exhibits, and proceedings that will assist the transcriber. This person can not possibly fulfill these monitoring responsibilities and produce needed transcript. Therefore, additional transcribers have to be employed. If you consider their salaries, equipment, fringe benefits, and other expenses attendant with an expanded staff, you are no longer cost-efficient.

The proponents of audio recording insist that their equipment allows employment of a lower-salaried employee. Yet, it would seem to me that any jurist, any attorney, any administrator would want a competent, trained professional in such a position of

responsibility. Add to that the additional cost of a new group of employees -- the transcribers -- and the system fails both in terms of efficiency and cost-effectiveness.

The installation of audio recording in courtrooms throughout the country has not, for the most part, replaced shorthand reporters. Instead, changes in the law as a result of the Gault and Argersinger decisions required many courts to become courts of record. In some cases, there were not sufficient shorthand reporters to fill these positions and recording devices were used to fill the gap. Today, there is no shortage of skilled shorthand reporters. Indeed, in many areas, there is a surplus of reporters.

For many years, the National Shorthand Reporters Association was unalterably opposed to any use of audio recording. Today, it recognizes that there is an application for audio recording but it is a limited application and its use can best be utilized in courts of limited jurisdiction with low, if any, transcript volume. An audio record, with all its drawbacks, is better than no record at all.

In our quest to meet the standards of quality, efficiency and reasonable cost, we must not allow ourselves to lose sight of the primary function of the shorthand reporter -- the protection of the public. The entire judicial system is structured to protect the rights of the public and the shorthand reporter is an integral part of that system. Some proponents of audio recording suggest that their less-than-adequate system is adequate in certain court jurisdictions. We hold the rights of the litigant to be so basic, so inherent in our system of justice, that there is no court dispute so small or unimportant that it does not deserve an accurate record.

COMPUTER-AIDED TRANSCRIPTION

Lest I give the impression that shorthand reporters are opposed to technological advancement, let me correct that impression. Reporters are, in fact, proponents of technology but their efforts have been directed towards technology that will add

to the capabilities of the system that has served the judiciary and the public so well for so many years. I speak of computer-aided transcription, often referred to as CAT.

CAT is a process that speeds the production of written transcript by using a specially programmed minicomputer to translate the shorthand symbols into English at a rate of approximately 400 pages per hour. The translated material can then be viewed on a cathode-ray tube and any spelling, translation or punctuation errors can be corrected by using the computer's editing system, similar to a word processor. After editing, the transcript is printed out at a speed of approximately three pages per minute.

There is no question that CAT works. Initially, as with many developing technologies, there were many problems with CAT but, these problems have been solved. Today there are more than 2500 reporters in this country using CAT to produce virtually all of their transcripts. By the end of this year, more than 3000 reporters nationwide will be using CAT on a regular basis.

CAT is not a passive technology. Like most complex office automation systems, it requires management to make it run most efficiently. But if properly managed, there is no question that it can produce transcript more quickly than any other method. In a recently completed report by the National Center for State Courts entitled Computer-Aided Transcription in the Courts, it was stated that a reporter dictating their own notes requires an average of 5.89 hours to produce the transcript from one hour's worth of court proceedings. Using CAT, a reporter could produce the same transcript in 2.66 hours, a time reduction of over 50% (1981, p. 34).

There is no question that there has been some reticence on the part of some reporters to utilize this new technology. In the past several years, through the vehicles of magazine articles and continuing education seminars, NSRA has educated its members about this new technology and its advantages for the profession. Part

of their reticence may be due to their fear that adoption of this new technology will not secure their position in the judicial system. I hasten to add that CAT technology can not be used if proceedings are recorded electronically. The computer requires the stenographic record; the technology that would allow computerized production of transcript from an audio recording is many years in the future, if it is possible at all.

Will CAT reduce costs from what they are today? I doubt it. The use of the computer is relatively expensive. But it will allow you to stabilize your costs over a relatively long period of time. I signed a five-year contract with the vendor that I chose to use and I know, within a few dollars, what my costs for producing transcript are going to be five years from now and I know that I am using the most efficient system of production available.

I suggest that working within the system of reporting that exists, improving the management, utilizing modern technology whenever appropriate, and seeking advice from reporter associations can improve the system so that you are confident that it is the most accurate, the most efficient and the most cost effective possible. Thus, you will have met your fiscal responsibilities. But most important, you will have guaranteed each and every individual of his or her constitutional right to due process of law through efficient trial and effective review, all accomplished by the best method available -- the shorthand reporter.

I once made a presentation in a court that had a motto on the wall -- "We who labor here seek only the truth." I trust you will agree with me that the ultimate consideration of any system is the protection of the public. I trust you will agree that such a system must operate under the tenets of quality, efficiency and reasonable cost. Each of you who labor here seek the truth. And I trust that after reviewing all the facts, you will agree that

the system that best qualifies is the system already available to you, the system that will provide you with a record of these proceedings today -- the shorthand reporter.

In conclusion, we wish to thank the Chairman for permitting me to appear on behalf of the National Shorthand Reporters Association and to present this statement. I am available to answer any questions you may have or to provide any other material which you might wish. Thank you very much.

Senator DOLE. I noted in your statement that you think it works. Mr. PEPPEY. Sir, I know it works. I have it in my office. I have had it for 5 years.

Senator DOLE. Let me ask a few questions. As I said to the last panel, we are not going to burden you with written questions unless we find some need to.

Mr. Dagdigian, you were here when the GAO statement was read and I am sure you are aware of the report. There have been a number of abuses and violations at least outlined, including use of freelance substitute reporters to report Federal court proceedings while the official reporter engages in freelancing reporting outside the Federal courts or operates his or her own transcription business.

Other alleged abuses include requiring litigants to pay for daily or expedited copy in order to receive a transcript within the 30-day period mandated by the Judicial Conference, assessing minimum charges for transcripts, charging for daily transcripts requested after the trial has ended and when daily copy has not in fact been delivered, charging the litigants for the copy which is supposed to be delivered to the judge free of charge, charging for delivery, or padding the transcript with blank spaces.

I guess these are at least indications in the GAO report of these violations, abuses, or however they may be designated. Are you personally aware of any instances in which official reporters have been responsible for any such conduct?

Mr. DAGDIGIAN. You covered the waterfront, Senator. May I defer to Mr. Blumberg who has followed this in the overall more so than I?

Mr. BLUMBERG. Senator Dole, I am aware, having done a little survey for the Administrative Office within the past year, that some reporters have, in fact, charged more for daily copy and twice-a-day delivery than the charges authorized by the Judicial Conference. However, in those instances where I found that the reporters did make those kinds of charges, they did it with the permission of the chief judge and the liaison judge of the district involved. I do not say that that, therefore, made it proper, but they did it with the authorization of the judges.

In response to a question you asked earlier, sir, did someone think that unrealistic transcript rates were a reason for the problems, I would say, sir, that in connection with daily transcript rates

and twice-a-day delivery transcript rates, the rates are unrealistic in various districts.

We have taken the position many times with the Administrative Office and the Subcommittee on Supporting Personnel that the act says the district courts shall set the rates in accordance with the local prevailing economic conditions, and they are the ones who best know what those rates should be.

We do not condone any overcharging or improper use of substitutes, because every time that happens, we get a bad name.

Senator DOLE. What happens if you do find it? Have you ever proceeded against anyone? Do you have any ethical standards in your association?

Mr. BLUMBERG. We have an ethics committee. However, what I have personally said to the courts who have come to me is, "If the reporter makes improper charges, fire him. That is your exclusive right and power. We do not want that kind of person on the payroll."

Senator DOLE. Have there been cases where they have been fired?

Mr. BLUMBERG. There have been some, but mostly they have not been fired.

Senator DOLE. Nothing happened?

Mr. BLUMBERG. Nothing happened. However, in our written presentation, we say that the chief reporter concept, a reporter who knows what is going on in the court who will serve under the direction of the chief judge of the district court, can police the situation in any district court better than any administrator far removed from the scene. We make recommendations and give you specific regulations and rules for a chief reporter concept.

Senator DOLE. That is in the written statement?

Mr. BLUMBERG. Yes, sir, it is.

Senator DOLE. I do not know who best might answer this, but, Mr. Dagdigian, why do a substantial number of official reporters use audio equipment as a backup if the stenotype reporters are indeed qualified? Why do they require such backup?

Mr. DAGDIGIAN. Senator, I think as Mr. Peppey stated, NSRA has adopted a policy regarding it. It is really a protection that the court reporter have that.

Some of us may remember a case many years ago involving Carol Chessman in California where the then pen shorthand reporter died sometime during the process of the appellate procedures. There was a difficult time reconstructing a record.

I do not think the problem is as great today with stenotypy as far as working from someone else's notes, but it is a matter of record verification and protection of the record.

Senator DOLE. Mr. Gimelli, you have described your method in some detail. What is the difference in time? Compare the time required to train a stenotype reporter and the time required to train a reporter in the Gimelli method.

Mr. GIMELLI. It is considerable. Assuming first that the applicant to study stenotype has the native aptitude to do it—that is the key—it is a minimum of 2 years and perhaps longer. There are too many other restrictions. For example, a person over a certain age,

while they can learn the stenotype machine, will never achieve the degree of skill required to become a reporter.

As a voice writer, one can test for the requisites which are really more important for reporting. That is the ability to comprehend and background in language as well as typing skills. Assuming a person has those requisites to start with, he can become a competent voice writer within 6 months. Some have done it in much less.

Senator DOLE. Judge, you have indicated that you have had no difficulty in your area. Maybe that is an area we should look to for some guidance in how we can better supervise other areas.

Are the official court reporters in your district freely assigned to report the proceedings in magistrates' courts?

Judge GRIESA. That is a subject that is in transition because the magistrates' jurisdiction has just been expanded.

I referred in my statement to the use of nonofficial reporters to a limited extent who were hired by the reporters. Let me say at the outset this is not done to allow the official reporters to spend their time on transcripts. It is a necessity for many reasons in our court.

However, right now, I believe in this period of transition, these nonofficial reporters, who are hired by the official reporters to come in on that basis which I described, provide the main service in the magistrates' court where reporters are needed. It is a kind of experimental thing. It is in transition. I do not know what the final answer is on that.

Senator DOLE. Are the contract reporters used in the southern district supplied at additional Government expense, or are they paid by the official reporters?

Judge GRIESA. They are paid solely by the official reporters. As I indicated in my statement, from a practical standpoint it works well because it is a very good way to test out the reporters. I think it is one reason why we have a good staff of official reporters. These people are observed and tested for a long time.

Senator DOLE. They sort of come into the system.

Judge GRIESA. That is right. It is an intermediate step so to speak.

Senator DOLE. What about court facilities in the southern district? Are they being used by official court reporters or their support personnel for the purpose of conducting outside freelance reporting services?

Judge GRIESA. No, sir.

Senator DOLE. You do not permit that or you just do not have that problem?

Judge GRIESA. This is Mr. Hillman, who is our chief reporter. I may have made a mistake.

Mr. HILLMAN. The nonofficial reporters who are on our staff do mostly deposition work. To the extent that they are on our staff and in our offices, they are using our facilities when taking depositions.

Mr. VELDE. You said nonofficial? I did not hear you.

Mr. HILLMAN. Yes, sir. The nonofficial reporters, that group of six to eight people we utilize as freelance reporters, do deposition work in addition to being sent into court when needed, and also to magistrates when needed.

Senator DOLE. What about the official reporters?

Mr. HILLMAN. The official reporters are in court on a 99.9-percent basis.

Senator DOLE. They do very little outside work then?

Mr. HILLMAN. The officials do one-tenth of 1 percent on rare occasions.

Senator DOLE. How many reporters are you talking about? What is your total number of official court reporters?

Mr. HILLMAN. Thirty-one.

Senator DOLE. You are a busy district and are occupied about 100 percent of the time. Is that an accurate statement?

Mr. HILLMAN. Our judges keep us busy, sir.

Judge GRIESA. We could supply more detailed information. I think as far as the use of the court facilities in the sense of physically using courthouse space to take depositions, most of the depositions are taken in law offices. I do not think there is really an abuse in any sense of using court facilities for private business.

Senator DOLE. I am not aware that that is widespread. Obviously very little of it happens in that district.

Again, I would say to this panel that we very much appreciate your being here. If there are additional questions which we would like to ask, I assume we could do that.

Mr. Blumberg, I understand you are counsel for the association?

Mr. BLUMBERG. I am the executive director.

Senator DOLE. How many in your association?

Mr. BLUMBERG. At the present time, at the close of our fiscal year, which will be June 30, we will have had 487 paid members, about 77 percent. Normally, we run 85 percent or higher, but because of the new judges and the new reporters, we have not gotten them all on board yet.

Senator DOLE. Thank you very much.

We have a panel consisting of John Stechman, Administrative Office of the Alaska State Court System, Anchorage, Alaska; Larry Polansky, Administrator, District of Columbia Superior Court of Washington, D.C.; Hon. David Cahoon, Administrative Judge, Sixth Judicial Circuit, Montgomery County, Md.; and Edgar Boyko Miller, Boyko & Bell, San Diego, Calif.

I might say, Judge Cahoon, that Senator Mathias had hoped to be here, but he is still at another meeting. If he shows up, he wants to say hello. If he does not show up, I will say hello for him.

Judge CAHOON. Thank you, sir.

Senator DOLE. Unless there is some predetermined order, you may proceed in the order in which your names were called. I will say at the outset that your entire statements will be made a part of the record. If you could summarize your statements, it would be helpful.

Mr. Stechman?

STATEMENT OF JOHN STECHMAN, ADMINISTRATIVE OFFICE OF THE ALASKA STATE COURT SYSTEM, ANCHORAGE, ALASKA

Mr. STECHMAN. I shall be brief. I am John Stechman, electronic engineer and member of the senior staff of the administrative director of courts of Alaska.

On behalf of the justices of the Alaska Supreme Court and the administrative director of the courts, I would like to thank you for the opportunity to testify on electronic court reporting in Alaska. Far too much erroneous information has been and is being circulated on this subject. We welcome any opportunity to set the record straight.

Let me preface my remarks by clearly stating that I am not here to defend or to sell the concept of electronic recording. It happens to work well for us. It delivers a superior product, we believe, at a clearly demonstrable lower cost for us. It is not mandated by statute. We are not locked into this system except through an administrative rule, a rule that can be changed at any time by a simple vote of our supreme court.

We are, in fact, continually examining alternate methods of executing the court reporting function. To date, we have seen no other method that comes even close to offering us the quality and cost advantages of electronic recording.

There are no hidden agendas in these examinations. Should we, for example, do the unthinkable and shift to manual recording, not one single individual would have their employment placed in jeopardy. To the contrary, since all our courts are courts of record, we would have to hire an absolute minimum of 63 shorthand reporters to supplement the present staff. The personnel roster would be inflated by 20 percent and our costs by over \$2 million per year.

Cost is not the issue with us, however. Should it ever be demonstrated that any other system of court reporting was superior in quality to electronic recording, the administrative director and his staff would not hesitate to recommend it to the supreme court, even though the cost might be substantially greater.

The origins of electronic recording in Alaska are lost to us. We know none of the whys or wherefores. We can only make some intelligent guesses as to why.

Administrative rule 47 came into existence dictating electronic recording. This rule clearly states: "Such electronic recording shall constitute the official record." This key point has been missed over and over by critics of the Alaska system. The recording is the record. Anything else is merely a copy to allow that record to be transported. The choice of the type of copy, either electronic or paper, is dictated solely by cost, convenience, preference, or ruling.

In practice, less than 5 percent of the record is ever committed to paper. Of that, 60 percent goes directly to the supreme court. There has been no record ever of any complaints from the supreme court as to the quality of the record.

We began with the Soundsciber tape machines in 1960. They were retired in 1970. Depending on one's viewpoint, executing the court reporting function with this equipment was either a very brave or a very foolhardy move. Reproduction was on a single channel and quality ranged from fair to awful. It is interesting to note that most of the adverse comments on the quality of our records stem from this period. Although sometimes overstated and biased, such comments had some basis in fact. In spite of the deficiencies, the record proved to be sufficient for the job at hand.

The early and mid-1970's saw the court system mature in its approach to court reporting. After a brief 3-year usage of Dicta-

phone equipment, the present Akai four-channel system was instituted in 1973 with courtroom sound reinforcement added in 1974. Courtroom design was also improved during that period.

The present system still uses the Akai recorder, heavily modified. We plan to continue to use it with substantial changes to peripheral equipment for another 4 to 5 years. Sound management policies have driven our repair rates down even as the equipment ages. We see no reason why we cannot wait to replace our equipment until the technologies and benefits of digital recording along with the potential of automatic word recognition become more clearly defined.

Along with equipment modifications, we have undergone significant changes in the area of written transcript generation in this time period. The use of cassettes in lieu of written copy has increased substantially in spite of shortages of equipment on which to produce them.

In 1980, the Alaska court system used over 20,000 90-minute cassettes. Conservatively, 80 percent of these were used in lieu of paper, the balance used for the record by very low volume courts. There is no realistic way to estimate how many pages were thus eliminated, but at 55 pages possible per cassette, the potential is great.

Again, there is no way to estimate how many pages of expensive paper are eliminated through the use of public listening posts. These machines, open free of charge to anyone during regular business hours, allow individuals to listen to the original record. They are very popular and are available in any court in the State. Three such machines are in constant use in Anchorage. We will have to add at least one more next year.

The court transcript services produce written copy on demand only for appeal cases and for public agencies. All other written copy is produced by the private sector at a cost that varies from \$2.75 per page in Anchorage to \$4.50 per page in Juneau. We do not compete with the private sector. Competition between the private sector individuals is heated.

In short, we have evolved a system we feel clearly saves the Alaska taxpayers over \$1.6 million a year in direct costs. There is no way to calculate the cost benefits to individuals involved in court proceedings. The system produces a record free of editing, omissions, misinterpretations, and judgments. It further allows any citizen at any time to listen to the record at a very low cost or no cost at all.

In closing, let me emphasize that we have had our errors, but in no identifiable instance has the normal case flow been interrupted by such error. Prospective users should be aware that a system such as ours requires active and continuing management. Skills are needed not commonly found within a judicial system. One cannot simply purchase equipment and then hope for the best. Disaster lurks around that corner.

Finally, the Alaska system is not state-of-art. Better may be available and jurisdictions contemplating electronic recording should compare carefully. It is even possible that electronic recording may not be the answer for them at all.

Thank you.

[The material following, submitted by Mr. Stechman, consists of two letters, a report ("Electronic Court Reporting in Alaska"), review of the above report, and two responses to the review.]



Alaska Court System

State of Alaska

303 "K" STREET
ANCHORAGE, ALASKA
99501

April 30, 1980

RECEIVED

MAY 5 1980

LEGISLATIVE
AUDIT

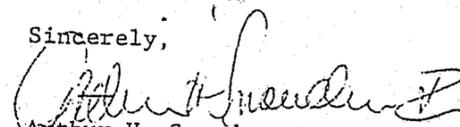
Gerald L. Wilkerson
Legislative Audit
Pouch W, State Capitol
Juneau, Alaska 99811

Dear Mr. Wilkerson:

I am writing with regard to your preliminary audit report on the Alaska Court System Court Recording System. My response is as follows: we agree with the finding of the report and have nothing to add.

If you have any further questions or a need for a more detailed response, please contact me at your convenience.

Sincerely,


Arthur H. Snowden, II
Administrative Director

AHS:cm

STATE OF ALASKA

THE LEGISLATURE
BUDGET AND AUDIT COMMITTEE

AUDIT DIVISION
POUCH W—ALASKA OFFICE BUILDING

FINANCE DIVISION
POUCH WF—STATE CAPITOL

JUNEAU, ALASKA 99811

March 21, 1980

Members of the
Legislative Budget and Audit Committee:

This letter constitutes our report on the special audit requested on the Alaska Court System's Court Recording System.

ISSUE

The objective of our review was to determine whether the Alaska Court System's report, Electronic Court Reporting in Alaska, July 1979, fairly presented the costs of electronic court reporting versus manual court reporting costs within the Anchorage Trial Court. In addition, we were to determine whether the users of the tapes and transcripts from the electronic courts reporting system are satisfied with the system's output.

CONCLUSION

In our opinion, the Alaska Court System's report, Electronic Court Reporting in Alaska, July 1979, fairly presents the costs of electronic court reporting and the costs of a manual court reporter system. It is evident from the comparative costs presented for each system that electronic court reporting is the more cost effective system. In addition, we have determined that the users of the electronic court reporting system are satisfied with the output of the system and believe that it is adequately meeting their needs.

SCOPE OF OUR REVIEW

Our examination included a review of the accounting records, summarization of Fairbanks, Anchorage, and Juneau in-house transcription record evaluations, surveys of the private sector transcribers, attorneys and Alaska State judges, and other such auditing procedures we considered necessary.

SUMMARY OF FINDINGS

The following is a summary of the results of our review:

1. Total costs for electronic recording versus total costs for manual reporting as reported by the Alaska Court System for the Anchorage Trial Courts were within two percent or less of our audited amounts. Therefore, we conclude that the following annual costs, from the report Electronic Court Reporting in Alaska, July 1979, are fairly presented:

TYPE OF RECORDING

Electronic	Manual	
	Without In-Court Clerk	With In-Court Clerk
Annual Costs Anchorage Trial Courts	\$1,041,178	\$1,529,598
\$690,800		

As shown above electronic court reporting results in an annual savings to the State of approximately \$350,378 to \$838,798 depending on whether or not in-court clerks are utilized with court reporters. We believe actual savings to the State is closer to the \$800,000 amount since 18 of 20 attorneys, and 11 of 11 State judges contacted responded that in-court clerks are necessary when a manual court reporting system is in use.

2. The results of our summary of Fairbanks, Anchorage, and Juneau in-house transcription evaluations and surveys are as follows:

GENERAL AUDIO QUALITY OF TAPE RECORDINGS

Group	No. of Respondents	Adequate or Above	Borderline	Inadequate or Below
(1) In-house Transcribers	69 evaluations	74%	12%	14%
Private Sector Transcribers	12	46%	23%	31%
(2) Attorneys	19	63%	26%	5%
(2) Alaska State Judges	11	60%	40%	0%

- (1) Based on evaluations received during October 1979 through February 1980. In addition, we asked the attorneys and judges surveyed to evaluate the general quality of transcripts typed from the electronic tapes: 100% responded with adequate or above.
- (2) Discussions with Attorneys and Judges who have worked with both systems indicate the overall quality of electronic reporting, in general, equals or exceeds our reporter system output.

Gerald L. Wilkerson

Gerald L. Wilkerson, CPA
Legislative Auditor
Division of Legislative Audit

ELECTRONIC COURT REPORTING IN ALASKA

Merle P. Martin
David Johnson
Technical Operations
Office of the Administrative Director
Alaska Court System

July, 1979

FOREWORD

The Alaska Court System has been too long silent on its experiences with electronic court reporting. Not since 1970 has anyone in our system explained what we are doing in this area. Now, nine years later, much has changed. The purpose of this paper is to describe our almost 20 years of successful experience with electronic court reporting.

I. Historical Perspective

The earliest use of electronic recording of courtroom proceedings in Alaska took place in the territorial courts in the 1940's as backup for the court reporter. Instead of using the recording tapes found today, the recorders then used recording wire about the size of fishing line. When the wire broke it was spliced by tying the two ends together into a square knot. A single microphone was used rather than the seven used today. Despite their "pioneer" nature, playback today of taped proceedings recorded by them is surprisingly discernable.

The Alaska Court System was established at the time of statehood in 1960 and electronic recording was authorized in the

Administrative Rules (see Appendix A) as the official record of all courtroom proceedings. The impetus for electronic recording of courtroom proceedings appears to have been both a shortage of court reporters and a feeling that the new court system should be started on a "modern" theme. The timing was ideal for this change. As an administrative director of the Alaska Court System later remarked:

"Aside from the occasional rumblings by individual lawyers and one "anti" resolution from a local bar association, it can be said that the transition from manual court reporting in territorial courts to electronic recording in the new state courts became a fact before any effective resistance could develop. Too many things were happening coincident to the take-over of governmental operations by the 'brand new state'."^{1/}

Thus was born the first statewide system of electronic court reporting. In discussing what has happened since it is useful to differentiate between the two parts of any court reporting system: (1) making the courtroom record, and (2) transcribing that record to another media, (usually a typed paper copy). The history of equipment maintenance will also be briefly discussed.

Recording of the Proceedings

The initial equipment selected was the Soundsciber, a recorder with a two inch tape which allowed 16 hours of uninterrupted recording and playback. It was single channel as multi-channel units were not available in small packages at that time. The Soundsciber cost \$1,300 a unit and required a mixer (\$550) and five microphones (at \$50 each) to operate in most locations. Forty units were initially purchased.

Court personnel were trained as the equipment was being installed. In late 1960 this first statewide electronic court

^{1/}Robert H. Reynolds, "Alaska's Ten Years of Electronic Reporting" (#56 American Bar Association Journal 1080 (1970)).

reporting system was operational. It is important to note that the equipment in this system did not necessarily remain stationary in a specified number of permanent courtrooms. The equipment was carried all over the state to make records in the most remote of locations. It is almost incredible that the first statewide electronic court reporting system was initiated in a state spanning 566,000 square miles, with the most primitive transportation system in the country, and with a population so dispersed that, even today, there are only fifteen communities with populations exceeding 2,500. Yet it may well have been just such factors that made court reporters a scarce resource, particularly in "bush" or rural areas.

Prior to implementation of electronic court reporting, it was the responsibility of the court reporter both to make stenographic notes of proceedings and to type an official transcript when requested. Upon the implementation of electronic reporting in 1960, proceedings were machine-recorded; court reporters were no longer responsible for preparation of the official record.

While the machines performed the recording duties of the court reporter, there had to be someone in the courtroom to operate the equipment and to perform traditional courtroom functions such as swearing in witnesses. In-court clerks had been used in addition to court reporters in territorial courts. These clerks were continued, but operation of the equipment was added to their duties. In addition to equipment operation and traditional courtroom duties, these clerks became responsible for keeping log-notes, a detailed record of courtroom events which are used to determine where on a recorded tape a particular courtroom event can be found.

It was quickly discovered that courtroom responsibilities and associated out-of-court tasks only consumed a little more than half the in-court clerk's time. Thus the in-court clerk became a valuable resource that could be used in other clerical areas including, if necessary, transcription of the record.

The Soundscriber was not a high-fidelity recorder and, because it recorded on only one track, separation of participants' voices was very difficult during playback. It produced an acceptable quality record, but that quality was far below that of today's records. The machine soon picked up the nickname "sound scratcher". The company marketing the Soundscriber worked on such improvements as in-court monitoring of the record and multi-channel recording, but even with these modifications, rapid advances in recording technology led to the decision to change. The first attempt was not successful.

In 1970, 30 Dictaphone 061 units were purchased to be used in the Anchorage trial courts. These units had six-channel reel-to-reel recording and a playing time of three hours. They had many desirable features including protection against recording over an existing record, in-court tape monitoring, multi-channel recording, and channel (voice) separation during playback. But, due to severe maintenance problems, these units were used for only three years. In addition to maintenance problems, a radio frequency interference (RFI) problem caused poor quality on many of the records. (See Appendix B for a discussion of RFI). Finally, even when the Dictaphone 061 was working properly, it produced a record of only marginally better quality than that of the Soundscriber. And the price of the Dictaphone (\$3500) was much greater than that of the Soundscriber.

In 1973 several other recording units were evaluated. The Akai four-channel reel unit currently in use was deemed a close second best, but because of the ability of the vendor to deliver 100 Akai units in a reasonable period of time, that unit was selected. (See Appendix C for a discussion of selection criteria). The hundred units were delivered in September 1973 and, by December of that year, installation of the equipment and training of the in-court clerks had been completed.

In 1974 sound reenforcement was added to most of the state's courtrooms. Sound reenforcement is the placement of microphones and speakers in a courtroom so that testimony can better be heard by the participants (See Appendix D for a discussion of sound reenforcement). At the same time wireless microphones were tested (See Appendix E for wireless microphone information). During the past six years, increases in state revenues from the oil pipeline allowed the State to rebuild or modify every major courtroom location with the exception of Fairbanks. This created the opportunity to work with architects and contractors to design these courtrooms to incorporate optimal electronic recording environments (See Appendix F for a discussion of courtroom construction required to facilitate electronic recording).

Transcribing: Typed transcription of the electronic record was only required when a case was appealed or in relatively infrequent special circumstances. Therefore, in about 95 percent of the cases the electronic version of the record proved to be sufficient - there were no requests for typed copies. But in the remainder of cases, the electronic record had to be converted (transcribed) to a typed paper copy. Until the last few years, this transcription process involved the following steps:

1. An attorney or other party requests a transcript, citing where on the tape the proceeding he or she is looking for can be found. This location can be found by looking at log-notes placed in the case file.
2. A transcriber finds the applicable tape, locates the portion to be copied, listens to that portion of the tape, and types everything he or she hears.
3. The transcriber edits the transcript for typing errors.
4. Another transcription clerk listens to the tape, compares it word for word with what has been typed, and pencils in corrections on the transcript (proofing).
5. The transcript is retyped to correct all errors.
6. The completed transcript is xeroxed in the requested number of copies.

The history of the transcription process in Alaska provides a valuable lesson for other jurisdictions contemplating implementation of electronic court reporting. The responsibility for transcribing the record was initially given to the clerks of the trial courts. And in some rural instances, court clerks perform that function today. But the larger volume of transcript requests in Anchorage and Fairbanks led to the establishment of specialized transcription sections - the clerks in these sections did nothing but prepare transcripts. These sections reported to a statewide transcript supervisor who worked for the Administrative Director of the Alaska Court System.

Proofing was extensive. As a result, the rerun rate (the percentage of pages that had to be corrected) ran as high as 40 percent. But, as will be discussed later, most of these corrections were for typographic errors that were not critical to the meaning of the record. This led to the replacement of normal office typewriters with expensive magnetic card (magcard) typewriters which facilitated error correction. At about this time the transcription sections were removed from the Administrative Office and placed under direction of the Anchorage and Fairbanks trial courts. No documentation remains as to why the transfer was made.

High speed duplicators were acquired so that reels of tape containing the courtroom record could be quickly duplicated to cassette or other reel copies. The use of cassette rather than paper copies began to increase, primarily through the incentive of lower cost.^{2/} But despite this factor, the backlog of pages to be transcribed and the time it took to transcribe them dramatically increased. A series of studies of the Anchorage section beginning in 1976 revealed the following facts:

^{2/}since public agencies receive their transcripts without any charge, the incentive for use of cassettes disappears. However, the speed for receiving cassette rather than typed transcript often operates as an additional incentive.

1. Daily page production was below standards that had been established for purposes of job classification of transcribers.
2. An inordinate amount of time was spent on proofing the typed transcript even though about 90 percent of the pages corrected had no more than one or two non-critical errors.
3. The cost to the State of Alaska of having state employees prepare transcripts was almost double that which would have been spent to pay commercial firms to prepare the same transcripts.^{3/}

The first corrective step was to significantly reduce proofing, thus releasing more time to production. Since this dramatically reduced the number of pages to be corrected, the magcard typewriters were replaced with ordinary and less expensive typewriters. In addition, since the transcribers could no longer rely on someone else to catch their errors, they became more careful on the first typing.

Page production incentive plans were tried with little success. Despite the reduction in proofing, daily page production, while improved, continued to be less than needed to bring costs in line with the commercial sector.

The possibility of the state abandoning all transcribing and relying on commercial sources was seriously considered. The first step in this direction was to limit transcription services to state agency requests. All private transcript requests (principally civil cases) were routed to commercial transcription firms. In the process of preparing for the possible transfer of state requested transcripts to the commercial sector, some transcript clerks were moved to other parts of the trial courts when openings occurred. Several other transcript clerks quit, took jobs in commercial firms, or sought other vocations.

^{3/}While there had been no commercial transcription services available when the Alaska Court System implemented electronic court reporting, by the time of this study there were quite a few firms providing such services.

Then a surprising transformation took place. Under the threat of extinction and having already been halved in size, the transcription clerks who remained began to produce as a group the same amount of pages per day as the entire section had produced a year before. One reason for this seems to have been that the clerks who were left were generally the fastest and most experienced. The "in-training" transcription clerks had left or moved to another part of the court system. The faster clerks that remained would naturally exert a peer pressure towards a higher level of production than before. The Alaska Court System's cost per page for transcription has significantly decreased.

There are two lessons to be learned from this court system's experience in transcription of the record.

1. Whether one uses commercial or in-house resources is a cost-benefit decision. The costs and the benefits need to be constantly monitored as they can change significantly.
2. A good transcription system need not use high priced typewriters or word processing equipment. Quality costs. Near perfect quality may be two to three times more expensive than adequate quality.

Maintenance: Since Alaska was (and still is) the country's least industrialized state, commercial equipment repair services were scarce. During the early years of its experience, the Alaska Court System relied on a combination of commercial maintenance and some in-house capabilities. Finally, in 1973, the choice was made to modify the newly purchased Akais. This, coupled with still relatively scarce and somewhat unreliable commercial maintenance, led to the establishment of the Electronic Record Maintenance section, an almost totally in-house repair capability. Jurisdictions in more industrialized states operating the more dependable equipment of today might find it unnecessary to establish such an in-house repair capability.

II. Electronic Reporting Today

The primary electronic recorder used is the Akai GX280D-SS model. There are also several Akai GX270D-SS and GX630D-SS models about. All recorders have been modified to slow the tape speed (thus allowing over six hours of recording per tape) and to remove the erase heads. A typical electronic recording configuration in the courtroom includes:

one reel tape recorder
 seven microphones (one lavilier (lapel), one directional, and five omni directional)*
 one microphone mixer**
 three feedback controllers**
 two four-channel amplifiers***
 two ceiling mounted speakers*
 one headset for monitoring

*Also used for sound reenforcement.
 **Used exclusively for sound reenforcement.
 ***One used for sound reenforcement.

Most of the equipment is in the proximity of the in-court clerk who has all controls available. The microphones are located as follows:

Judge - one directional
 Witness - one lavilier (lapel)
 Jury Box - one omni directional
 In-court clerk - one omni directional
 Podium - one omni directional
 Counsel table - two omni directional

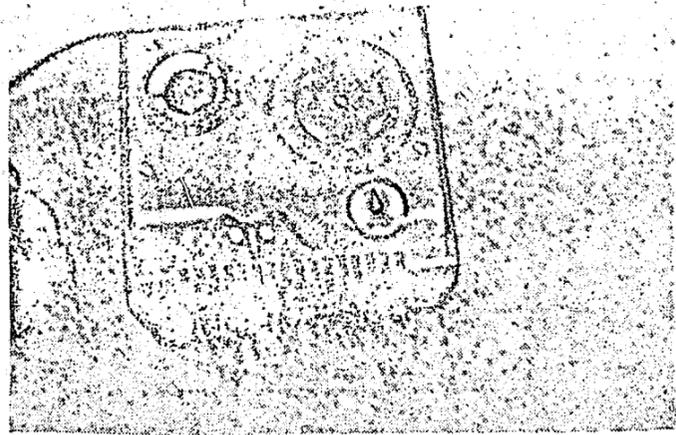
The judge's microphone is mounted on a swivel stand. It uses a shock mount to minimize unwanted transmissions from the bench. The jury microphone is mounted on the jury box and the in-court clerk's microphone is on a desk stand in his or her area. Counsel microphones are mounted in foam holders on each counsel's table. The podium microphone is on a long floor stand. The entire recording and sound reenforcement system is activated by pressing one switch.

The in-court clerk's responsibilities regarding the equipment consist of cleaning the recorder, performing a test to ensure proper operation, turning the recorder on when the judge enters the courtroom, preparing the log notes, and monitoring the record as it is being recorded. The in-court clerk can easily anticipate the end of the reel and can change tapes in about 15 seconds.

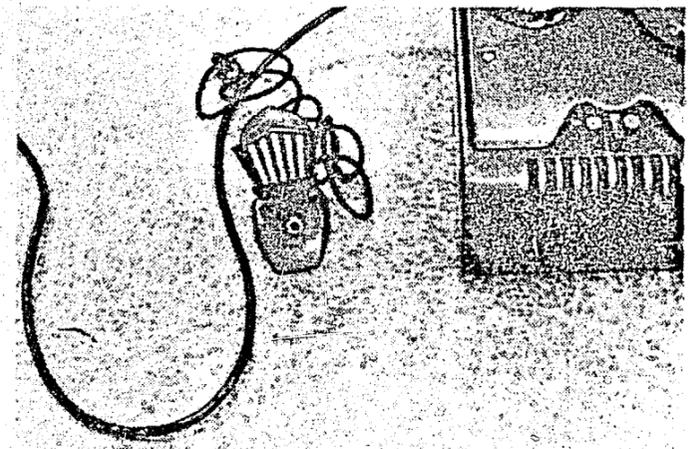
The log notes (See Appendix H) are a two part form. One is placed in the case file and the other serves as the daily journal of courtroom activity. After the tapes leave the courtroom, some of them are first used to produce cassette duplicates upon request for certain proceedings such as grand jury hearings. All tapes are stored in a tape library for future reference. No paper copies are produced except upon request.

The transcript sections in Anchorage and Fairbanks consist of a supervisor, several transcription clerks, a tape library, high speed duplication equipment, the recorders necessary for playback of the record, and other equipment such as typewriters. Services provided by the transcription sections include providing hard copy (paper) transcripts, providing reel and cassette tape copies of the record, making reel tapes available for parties to audibly reference the record, and helping parties find where on a tape a particular portion of a proceeding is located. The following few pages contain photographs showing portions of our electronics equipment.

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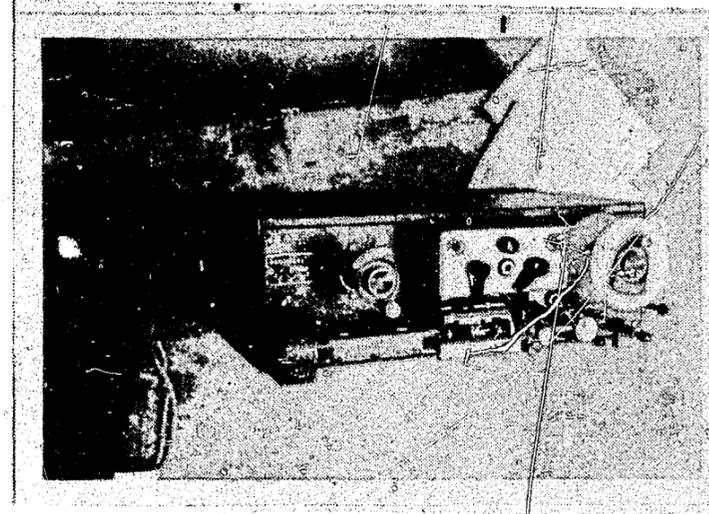


Early electronic recording device used as backup for court reporters during territorial days.

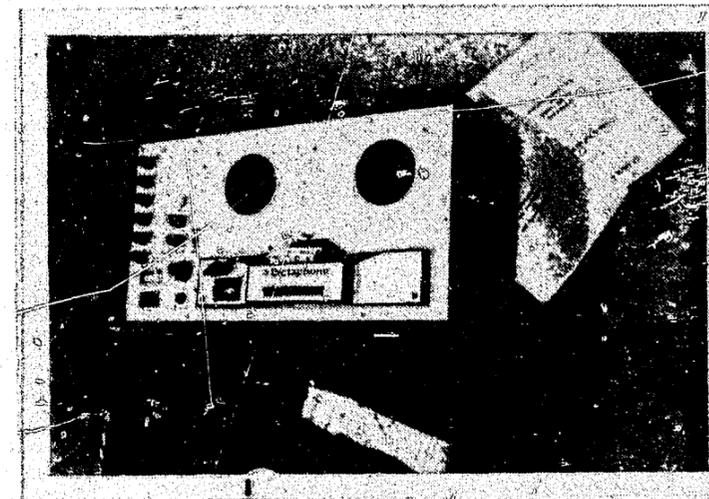


This early device used only one microphone as compared with the seven used today.

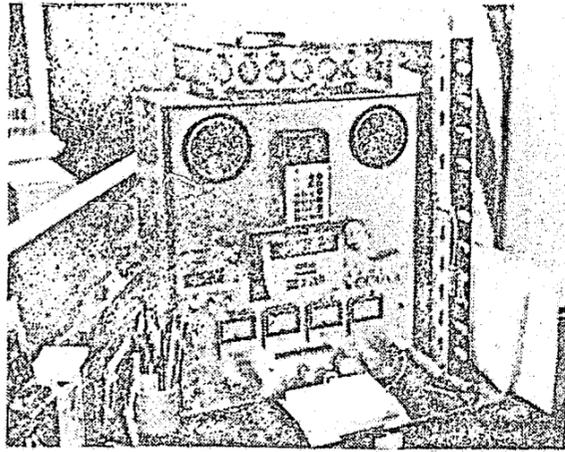
237



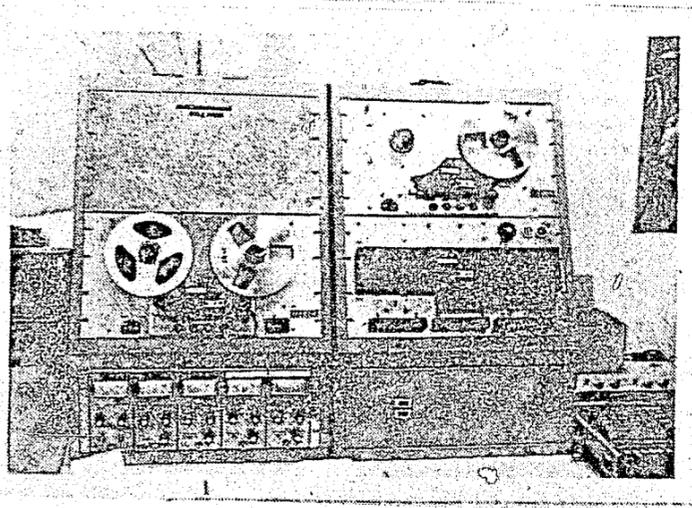
The Soundscriber used from 1960 to 1970.



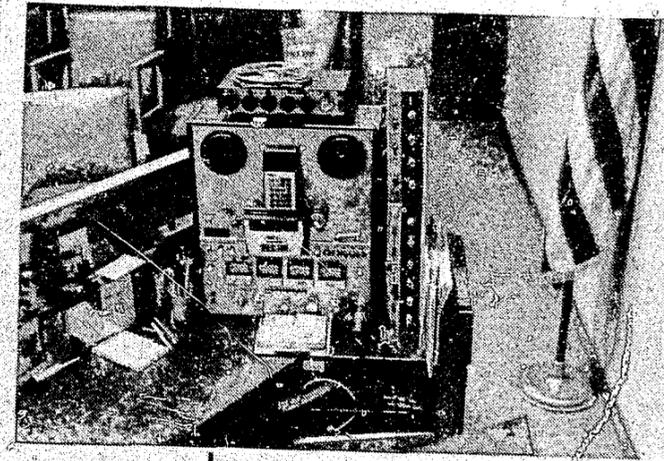
The Dictaphone 061 used in Anchorage from 1970 to 1973.



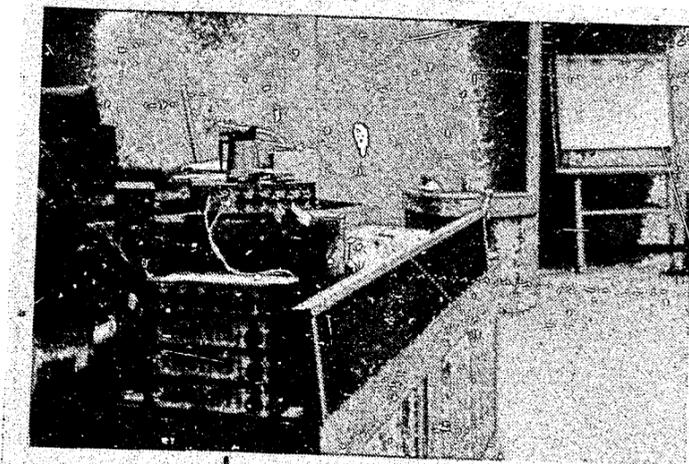
The AKAI unit currently used since 1973



High Speed Tape Duplicator producing both cassette and reel copies of the record.

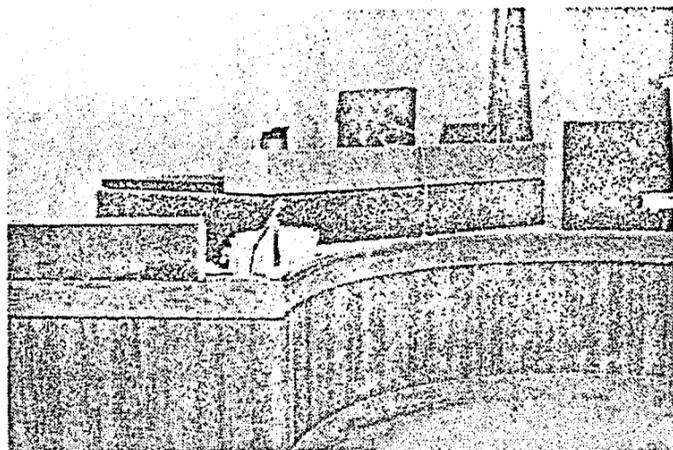


The In-Court Clerk's Area All recording and control of the microphone is done here.

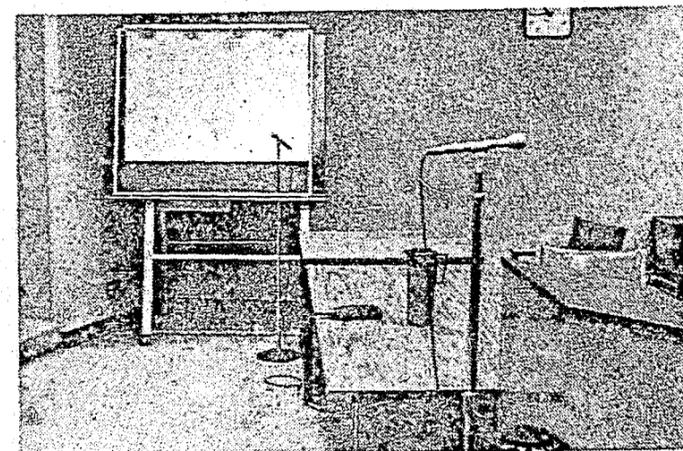


Another view of the In-Court Clerk's area.

240

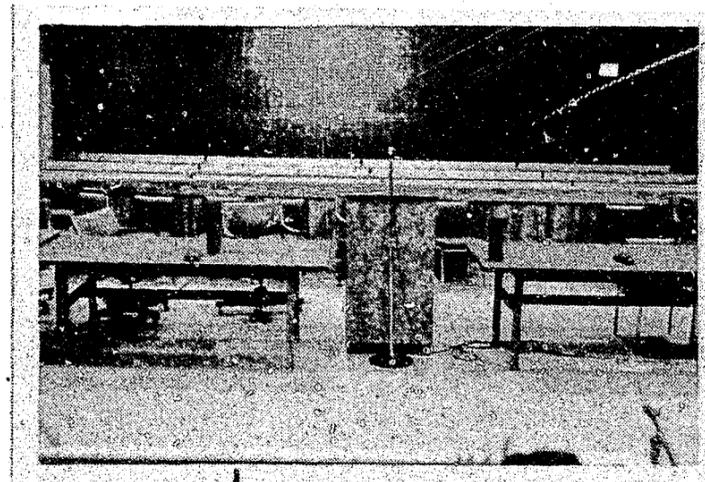


Bench Area Microphones

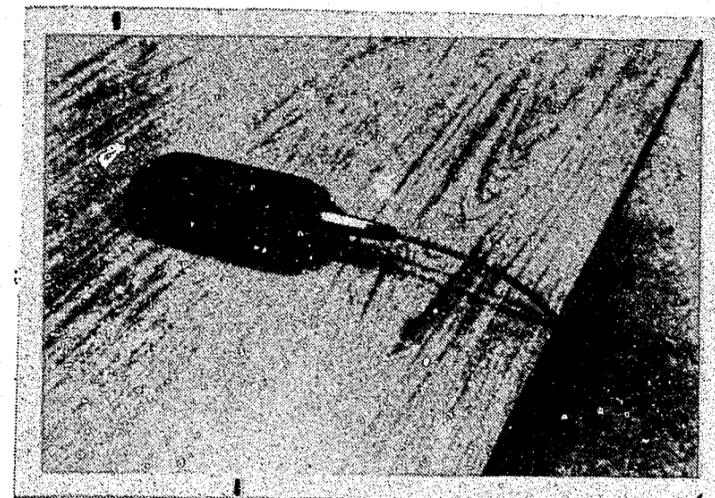


The Podium Microphone

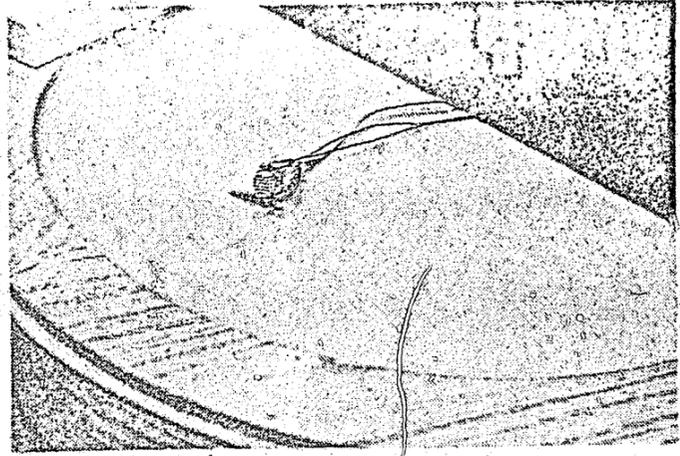
241



Counsel Microphone



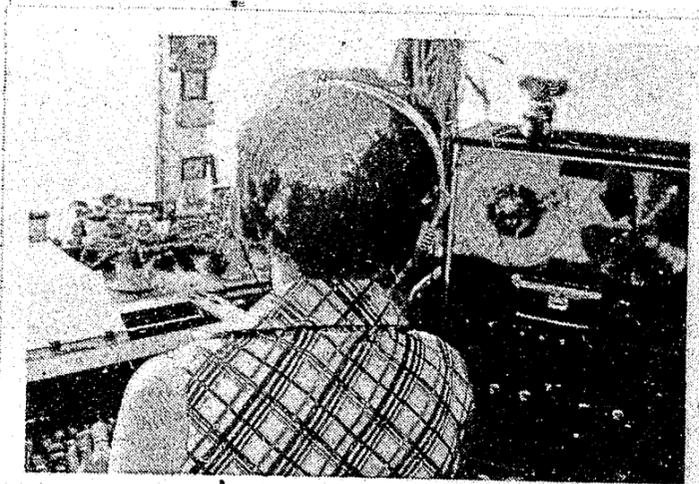
These microphones are mounted
in foam holders.



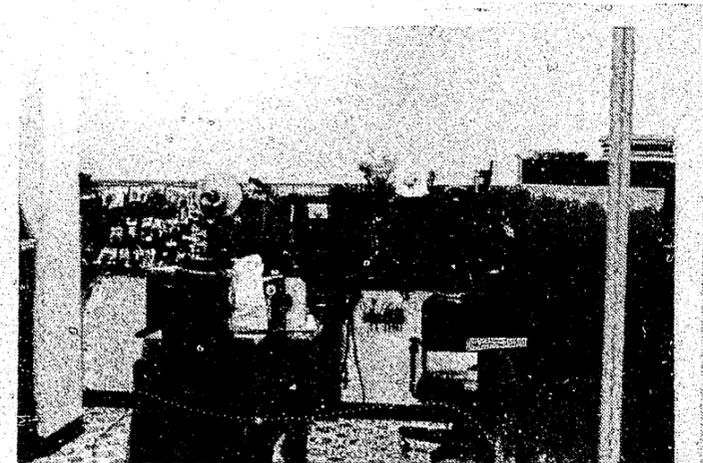
The Witness Microphone



This microphone is attached to the witness' lapel.



Transcribing the Record



The Electronic Record Maintenance Section in Anchorage

III. The Cost of Electronic Court Reporting

The cost of electronic court reporting is less than its manual counterpart. The Anchorage trial courts will be used to illustrate this fact. The size of this court allows better delineation of the costs of preparing the record and of transcription. The primary costs involved are those of in-court clerks, transcription clerks, equipment, supplies and maintenance.

In-Court Clerk Costs: The Anchorage trial courts have 21 in-court clerks. The total annual personnel costs associated with these clerks is shown in Exhibit 1.^{4/}

Exhibit 1 Anchorage In-Court Clerk Annual Personnel Cost (FY 1979)	
Annual Salary	\$365,400
Overtime	8,000
Fringe Benefits (@ 30%)	115,020
Total	\$488,420

Approximately 60 percent of the in-court clerk's time is spent in or out of the courtroom on tasks related to electronic recording. Another ten percent of the clerk's time is spent typing sentencing transcripts. The remainder of the time is spent on clerical matters unrelated to electronic recording or transcription. Ten percent of the total in Exhibit 1, or \$48,842, will be allocated to transcribing. The remainder (\$439,578) will be allocated to preparing the record even though part of the

^{4/} It could be argued that, since in-court clerks were used in addition to court reporters in territorial courts, they constitute no additional costs under electronic recording. It was decided to take the conservative approach of including in-court clerks costs in the costs of electronic recording and, later on, to also add these costs to one option of manual recording of the record.

duties of in-court clerks are not related to preparation of that record. Since it is impractical to hire a part-time in-court clerk, electronic recording requires the hiring of a full-time clerk, even though only 60 percent of his or her time is required. Thus, all of the salaries except that devoted to transcribing must be considered a cost of preparing the record.

Transcriber Costs: The annual salary for transcription clerks is \$117,000 and, with a 30 percent allowance for fringe benefits, total annual personnel costs for transcription comes to \$152,100. All of these costs are directly related to transcription.

Equipment Costs: The equipment used has two configurations; one for recording in the courtroom and one for listening outside the courtroom. Exhibits 2 and 3 show the costs for each of these configurations.

Exhibit 2
Cost per Courtroom for
Electronic Recording Equipment

Type Equipment	Cost
Standard 4-channel recorder	\$ 800
Modification for speed and recordover	150
4-channel amplifier	300
Headset	20
7 Microphones	455
1 Speaker	60
1 Headset	20
Total	\$1805

Exhibit 3
Cost Per Listening Post
For Electronic Recording Equipment

Type Equipment	Cost
Standard 4-channel recorder	\$ 800
Modification for speed and recordover	150
4-channel amplifier	300
Headset	20
Footpedal	60
Total	\$1330

The Anchorage trial courts use 23 of the recording and 17 of the listening configurations. Nine of the 17 listening configurations are devoted to transcription of the record. This then adds up to an inventory investment of \$52,155 for the 31 units used for electronic recording and \$11,925 for the nine units used for transcription. As will be explained later, all Akai units will be modified to extend their life another five years (they have been in use six years thus far). The cost of this modification will be about \$400 per unit. Adding this cost per unit to the 40 units used, this brings Anchorage inventory investment for electronic recording to \$64,555 and for transcription to \$15,525. Prorating these investments over the conservatively estimated eleven-year expected life of the equipment results in a cost of \$5,869 a year for electronic recording and \$1,411 a year for transcription.

Supplies: Transcription supplies and equipment rental average about \$23,000 a year. Recording supplies average about \$17,000 a year.

Maintenance: The Anchorage trial court's share of maintenance performed by the electronic technicians is approximately \$14,000 a year. Allocating this figure by the number of machines used in recording and transcription results in an allocation of \$10,850 a year for electronic recording and \$3,150 a year for transcription.

Total Costs: Annual Anchorage costs for electronic recording and transcription are summarized in Exhibit 4.

Exhibit 4
Anchorage Annual Cost for
Electronic Recording and Transcripts

Type Cost	Electronic Recording	Transcription
Personnel	\$439,578	\$200,942 ^{5/}
Equipment	5,869	1,411
Supplies	17,000	12,000
Maintenance	10,850	3,150
Total	\$473,297	\$217,503

The \$473,297 annual Anchorage costs of electronic recording can be transformed into several ratios as shown in Exhibit 5.

Exhibit 5
Electronic Recording Cost Ratios (1978)

No. Cases Filed	75,394	Cost per Case Filed	\$ 6.28
No. Non-Traffic Cases Filed	23,061	Cost Per Non-Traffic Case Filed	\$ 20.52
No. Judicial Officers	23	Cost Per Judicial Officer	\$ 20,578.13

In analyzing transcription costs, the Anchorage transcription section produces about 55,000 hard copy pages a year. An additional 35,000 pages would have to be typed if cassettes were not so extensively used. This adds up to an annual transcription page requirement of 90,000. The \$217,503 in annual transcription costs in Exhibit 4 then averages to \$2.42 a page.

The Cost of Manual Reporting: It is useful to compare the above costs to what they would have been if manual court reporting had been used. At first glance it would seem that we would have needed to replace the 21 in-court clerks with court reporters. But the National Center for State Courts has stated that most often both reporters and in-court clerks are used in state courtroom proceedings where the record is manually prepared.^{6/} Therefore, the ensuing analysis will deal with two alternatives - one where the court reporter replaces the in-court clerk and the

^{5/} Sum of \$152,100 transcription clerk costs and \$48,842 in-court clerk costs allocated to transcription.

^{6/} June 5, 1978 Memorandum from Michael Greenword of the National Center for State Courts to the Administrative Director of the Alaska Court System.

other where the court reporter is used in addition to the in-court clerk.

Court reporters in the U. S. District Court in Alaska draw an average salary of \$25,236 a year in addition to a non-taxable 25 percent cost-of-living allowance which would be \$6,309 for a total annual salary of \$31,545.^{7/} We would have to replace our 21 in-court clerks with 21 reporters whose combined salary would be \$662,445. Since court reporters would be state employees, fringe benefits at 30 percent would raise annual personnel costs for the 21 reporters to \$861,178.

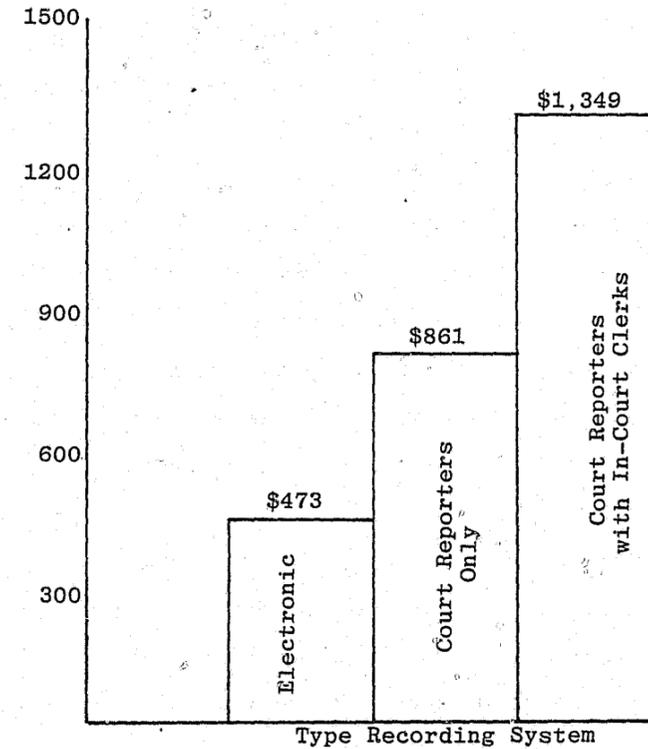
It is assumed that the ten percent of the time in-court clerks devoted to transcription would be assumed by the court reporters. Therefore, the entire total of Exhibit 1, or \$488,420, would apply in the case where both court reporters and in-court clerks were used. In this case, then, total annual costs of manual recording of the record would be \$1,349,598. The costs of both modes of manual recording of the record are compared with electronic recording of the record in Exhibit 6. Manual preparation of the courtroom record would have cost the state at least \$387,881 more than electronic recording. If in-court clerks were augmented rather than replaced (the more common occurrence), the costs to the state would have been \$876,095 more for manual preparation of the record.

As to transcription costs, price per page set by court rule is \$2.00.^{8/} There is no reason to assume that state court reporters would charge any less. At 90,000 pages a year (cassettes would no longer be possible), this would mean an annual cost to the state of \$180,000, or \$37,503 less than current transcription costs.

^{7/}This is a conservative figure since it does not take into consideration the taxes not paid for the \$6,309 cost-of-living allowance. Reporters working for the state would have to pay such taxes.

^{8/}In reality it is \$2.75 per page since one copy at \$.75 is always provided since the original copy must be filed with the court. For the sake of simplicity, we will only consider cost of the original.

EXHIBIT 6
Costs of Recording Systems



Total costs of electronic versus manual court reporting are shown in Exhibit 7 which illustrates the great cost advantages of electronic over manual court reporting.

Exhibit 7
Costs of Electronic Versus Manual Court Reporting

	Type Reporting		
	Electronic	Without In-Court Clerks	With In-Court Clerks
Preparation of Record	\$473,297	\$861,178	\$1,349,598
Transcription	217,503	180,000	180,000
Total	\$690,800	\$1,041,178	\$1,529,598

Finally, it is uncertain what the cost per page may be for recently developed computer assisted transcription systems. But a close look at Exhibit 7 will show that, if such prepared pages were provided free to the state, manual court reporting would still be more expensive than electronic court reporting.

Other Considerations: There are three other considerations that, while not included in the above analysis, make the cost advantage of electronic court reporting even greater. The first is that of sound reenforcement. A great number of courtrooms in this country require microphones and speakers so all parties can be heard. (A mumbling witness must be heard by the members of the jury as well as the court reporter). Such sound reenforcement is not linked to whether or not electronic court reporting is used but, when there is electronic recording, the costs of sound reenforcement are reduced. This is because some of the equipment required for electronic recording is also required for sound reenforcement. The obvious example is microphones. Thus a portion of the costs of equipment attributed to electronic recording above could correctly have been prorated to sound reenforcement instead.

A second factor is that electronic storage of words is cheaper and takes less space than does storage of paper words. While microfilming will decrease paper space requirements, it will also add to the cost. The cost advantages of electronic recording in records retention will become greater as media including video recording and video disk continue decreasing in cost while paper increases in cost.^{9/}

The third factor is that the cost gap between electronic and manual court reporting will likely increase in time. If inflation creates a ten percent increase per year in both the costs of electronic and manual court reporting, then the cost gap between

^{9/}While these technologies are labelled 'video', they also have audio storage capabilities.

them will also increase ten percent a year. But it is doubtful that both types of reporting will have costs increase at the same rate. Electronic court reporting's costs are partially equipment oriented while the costs of manual court reporting are totally personnel oriented. Equipment costs have historically risen at a much lower rate than have personnel costs. This fact will tend to make the cost advantage of electronic court reporting become greater than otherwise.

IV. Quality of the Record

A 1971 article in the American Bar Association Journal states:

"An examination of more than 1,000 pages of transcripts produced in Alaska shows that the quality is so poor that it would not be acceptable in most courts in the United States. The incidence of 'inaudible' or 'indiscernible' notations is so numerous as to make questionable the value of any such transcript. Live court reporters produce far superior transcripts at little more cost to litigants and at less cost to the taxpayers."^{10/}

Quite a different picture is painted by Robert H. Reynolds, a former administrative director of the Alaska Court System. Commenting on the "...numerous instances where local attorneys and others from outside Alaska [had] employed shorthand reporters to record proceedings concurrently with the Alaska Court System's equipment," Mr. Reynolds describes the results of such 'tests' as follows:

"Subsequent comparison of the respective products removed any doubts as to the high quality of the court system transcripts. On each such occasion where stenographic transcripts were available they were edited against the court's electronic tapes of the proceedings. The results were nothing short of unbelievable--

^{10/}Edgar Paul Boyko, "The Case Against Electronic Courtroom Reporting" (#57 American Bar Association Journal 1608 (1971)).

so much so that the author was not satisfied with the 'hearsay' reports, but had to satisfy himself with the personal replay of the tapes while reading the short-hand produced copy. Hundreds of pages of transcript prepared by various 'certified' and 'official' reporters, so edited, revealed frequent instances of what we now feel are characteristic errors of the manual method: (1) editing of grammar and sentence construction; (2) omissions of questions and answers by reporters who apparently take it upon themselves to judge what is relevant or irrelevant; (3) failing to correctly hear and transcribe certain words, which may sometimes be critical to the meaning of testimony; and (4) interpretive narration of testimony given too rapidly for verbatim transcription."^{11/}

It is difficult to believe that both authors were speaking of the same system.

Quality of the record is a two-faceted issue. The first is that of recording an exact replica of what has occurred in the courtroom - a replica unmodified by judgment or expediency. It is largely to this aspect of quality that Mr. Reynolds speaks. Many parties to the justice system believe that it is better to have a word or phrase be "indiscernible" (not understood) on an electronic record than to have it replaced on a manual record with a word or phrase that changes the meaning or the flavor of testimony.

Another important point surfaces from Mr. Reynolds' statement. The editing of grammar, omission of questions, failure to hear certain words, and interpretive narrations found in court reporters' transcripts would never have been known to exist had not electronic recording equipment been in the courtroom. The record would have been what the court reporter said it was, rather than what it really was. If parties in a case disagreed

^{11/} Reynolds, Electronic Reporting

with the reporter's version of the proceeding, there would have been no place to look to resolve the disagreement unless the proceeding had also been recorded. This may have been why electronic recording equipment was used as a backup for court reporters during territorial days. But if electronic recording is to be used as the "ultimate authority", why then a redundant and costly manual system?

The second facet of quality of the record deals with the rate that indiscernibles appear in a typed copy of the proceeding. If the quality of the electronic record is poor, the transcriber will not be able to identify (hear properly) many words or phrases of the testimony. He or she will then be forced to type the word "indiscernible" in place of the actual testimony. Three years ago we implemented a "quality assurance form" (See Appendix G) to be filled out by the transcriber while he or she was listening to the electronic record. A copy of the completed form was sent to the applicable judge and in-court clerk for correction of recording problems. After 18 months the rate of "indiscernibles" proved to be less than one in every 100 pages. The continued use of the form was stopped. It is now used on a periodic, sampling basis. Whatever standard one may establish for acceptable quality of an electronic record, it is clear that Alaska's electronic court records are of high quality. Certainly this data describes a situation quite different from that posited by Mr. Boyko. But partially in his defense, his statements were made in 1971 - the era of the soundscriber. Our data was taken in 1976 and 1977 - the era of the more modern Akai.

Indeed the quality of record today is so good that much of the proofing previously done in transcription sections has been eliminated. It used to be common procedure that, after the transcriber had prepared his or her transcript and scanned it for obvious typing errors, the transcript supervisor or another transcription clerk would put on the headsets, listen to the same

tape, and check each typed word against the electronic record. The rate of errors on typed transcripts was found to be so low in quantity and quality that this redundant proofing operation was proved unnecessary. It was therefore discontinued.

However, there is an additional price to pay for such quality other than the moderate costs of equipment. The courtroom must be controlled to make an effective record. And it is the ultimate responsibility of the judge to ensure such courtroom control which includes:

- (1) restraining the "wandering advocate" from abandoning his or her microphone(s);
- (2) counseling parties against talking at the same time (the electronic recorder can make more sense out of simultaneous orations than its human counterpart because of its ability to play back only one track (one microphone) at a time, but this still can be a problem).
- (3) quickly cautioning a witness when his or her voice is not loud or clear enough to be heard (and does not record).

The judge must take an active role in the preparation of a proper record in an electronic court reporting system.

Finally, another quality problem often referred to in the first ten years of Alaska's experience was that of having a proceeding apparently be recorded only to subsequently find that the equipment had malfunctioned or had not been turned on. With the courtroom monitoring capabilities of our current equipment, this problem no longer exists.

In summary, while quality of the electronic record may have presented some problems in the past, this is not the case today. Indeed, it seems clear that today's equipment's quality, combined with its inability to interpret, edit or omit testimony, allows it to produce a record superior to that which could be produced manually by a court reporter.

V. Other Considerations

Personnel Turnover: It has been occasionally stated that retention of qualified in-court clerks and transcribers has been a problem with electronic court reporting in Alaska. While employee turnover in Alaska is a generalized problem, we have not found it to be one we cannot control for in-court clerks and transcribers. In-court clerks are generally promoted from within the court system and enter their jobs with some knowledge of the courts. Training on the equipment is quick, easy and effective. Such training is conducted by other in-court clerks and by technicians from the statewide Electronic Recording Maintenance section. This section has also developed training films and manuals. While we still find that operator errors exceed machine malfunctions at a ratio of about two to one, the incidence of both types of error is relatively infrequent.

Turnover of transcribers was a far greater problem in the first ten years of our experience than it is today. But commercial transcription, once almost non-existent, is now present in Anchorage and Fairbanks to a sufficient degree that there is an adequate job market for qualified transcribers. This, coupled with the adequate pay and fine fringe benefits available for state employees, has made turnover and availability of transcribers a lesser problem than it once was. If the problem were to heighten, the option of using commercial services to a greater degree than we do now would still be open.

The salient point, however, is that there is no evidence that whatever turnover, sickness or other personnel problems which might be encountered with in-court clerks and transcribers would be lessened with court reporters. Given the greater experience generally accredited to court reporters, availability and training of court reporter replacements might well make their turnover more of a problem than that of in-court clerks and transcribers.

Response Time for Copy of the Record: A frequently cited advantage of the court reporter over electronic reporting is the ability of the reporter to more quickly produce a paper copy of the record. While at least one study has led this contention to be suspect^{12/}, the point becomes relatively unimportant when we note that less than five percent of taped records have to be transcribed to paper, and many of these transcriptions are not "same-day". In addition, many "same-day" requests (e.g., grand jury hearings) are produced on cassette rather than paper.

Further, it is common practice in Alaska for attorneys and judges to listen to the electronic record of a proceeding or to request a cassette rather than a paper copy. And while it is not yet common practice in this state, we have personal knowledge of one appellate judge in New Mexico who hears appeals on the electronic record rather than requesting paper copies.^{13/}

Finally, the electronic record seems to have an advantage when it comes to playback of a part of the proceedings for juries. While the court reporter in a manual system can read aloud his or her notes as playback, those notes lack the voice inflections which electronic records can provide.

Thus the issue of rapid turnaround of a typed record becomes largely moot under the Alaska system. Rapid turnaround is rarely required and, when it is, the turnaround can often be performed more quickly and effectively by electronic rather than typing means.

Log Notes: In-court clerks must maintain log notes to keep track of where on the record different parties speak and what is the essence of their oration (See Appendix H). These log notes are

^{12/}James E. Arnold, "A Study of Court Reporting" (Sacramento, California-November 1973).

^{13/}A rule is under development where, for certain types of "emergency" matters, the electronic record will be sent to and heard by the Alaska Supreme Court in lieu of producing a typed transcript.

used to later designate which part of the electronic record is to be listened to or transcribed. The log notes contain the date of the proceeding, the type of proceeding, the judge, and how much bench time the proceeding takes. This information has proved extremely useful in developing judicial resource indicators.

In recent years, several state court systems have implemented case weighting systems for determining judicial position requirements. These approaches measure how many bench hours are required to hear different types of proceedings, how many bench hours are available per judge, and, by dividing the second figure into the first, how many judicial positions are required.

Alaska has used a case-weighting system since 1975. While other jurisdictions must implement expensive, onerous, and disruptive surveys of what is happening in their courtrooms, the log notes required for electronic recording provide our system with all requisite case-weighting data on a non-obtrusive, consistent basis. While this nice-to-have, analytical tool certainly does not justify an electronic court-reporting system, it is a valuable spinoff.

VI. The Future

Since our recording units were purchased in 1973, they are quite a few years behind the "state of the art." Among currently available features not existent on our Akai recorders are (1) full automatic volume control option; (2) electronic logging; (3) automatic search for specific portions of the tape record; (4) easily resettable tape counter; and (5) simple panel control layout (only five or six knobs, switches and buttons).

However, these features will be incorporated into newly purchased Akai units and into existing units over the next several years in conjunction with minor mechanical overhauls. These modifications will be facilitated by the recent purchase of a

microprocessor development tool. This tool is primarily a computer using a programming language to design an electrical modification and an interface to convert this design to an electronic chip to be placed on the recording equipment. Modification of the Akai units will increase their serviceable life by at least five years.

It soon becomes clear to one entering the electronic court reporting environment that one's focus must be extended many years into the future. Explosive technologies make this a must. To stress this point, the following ideas of what electronic courtrooms may look like in the future are presented. These ideas are based upon predictions found in current electronic journals.

The 1984 courtroom will have a central recording unit which uses a cassette tape media for audio storage. It will have six channels for recording in addition to one for the text of the log notes. This system will record some 500 hours of proceedings per cassette. Wireless microphones using infra-red light will be installed.

1989 electronic court reporting equipment will have an additional four channels of recording capability. Digital processing on the audio channels will eliminate background noise and focus on particular courtroom participants during playback. There will be no controls on the main recorder - it will operate automatically. Recording time will have doubled to 1000 hours.

By 1994, a transcript channel will have been added which will allow automatic printing of a hard copy of the record if desired. The system will automatically prompt participants to speak up or repeat transmissions. This prompting will be done via a display of what is being recorded on a terminal located in the courtroom.

As one looks at projected technological advances of electronic recording in the near future, it becomes clear that, for

most if not all court jurisdictions in this country, electronic court reporting becomes a question of "when" rather than "if".

VII Conclusions

The Alaska Court System embarked on the total statewide use of electronic court reporting almost 20 years ago. While the decision to use this method of reporting was probably unavoidable for this state, it might have been unwise for other jurisdictions due to the relatively primitive nature of the recording art at that time. But now recording technologies have caught up with, indeed surpassed us. Today the quality of the electronic record is outstanding and the inability of the machine to modify what occurs in the courtroom makes it a more reliable recorder. Secondly, but importantly, electronic court reporting costs less than its manual counterpart.

APPENDIX A

Alaska Court System Administrative Rule 47

ADMINISTRATIVE RULES

47

Rule 47. Electronic Recording Equipment—Official Court Record—Responsibility for Record.

(a) Electronic recording equipment shall be installed in all courts for the purpose of recording all proceedings required by rule or law to be recorded. Such electronic recordings shall constitute the official court record. It shall be the responsibility of each judge or magistrate to require that the electronic recording equipment in his court be operated only by qualified personnel in such manner and under such conditions as to insure the production of a readable record of all proceedings.

(b) Before commencing any proceedings required to be recorded the judge shall satisfy himself that the electronic recording equipment is functioning properly and during all proceedings shall require the clerk or deputy clerk to supervise the operation of and constantly monitor the input to the equipment and immediately notify him when the quality of the recording is doubtful. Where extraneous noises, interference, poor enunciation or other factors create doubt that the electronic rec-

ord is sufficiently clear to permit full transcription, it shall be the responsibility of the judge to cause the doubtful proceeding to be repeated.

(c) The courtroom clerk or deputy clerk shall be responsible for maintaining a detailed, accurate and thoroughly legible written record of all proceedings recorded on each magnetic tape. The maintenance of such record shall be according to instructions of the administrative director of courts.

(d) The administrative director of courts shall issue specific instructions to court personnel regarding proper monitoring and transcription and providing for a uniform safe method of permanent preservation of magnetic tapes and logs.

(e) The administrative director may authorize the use of video tape equipment to record any trial where the recollection of such proceedings is feasible. The video tape will constitute the official court record. (Amended by Supreme Court Order 114 effective October 14, 1970; by Supreme Court Order 134 effective immediately; and by Supreme Court Order 198 effective February 15, 1975)

Alaska R of C 5-23-75

AdR 99

APPENDIX B

Radio Frequency Interference (RFI)

Record quality can be impaired by interference from radio frequency. Sources of such energy can be light dimmers, motors, automobiles, citizen-band radios, television stations, and police radios. The interference can be heard as the actual material transmitted (e.g., voices) or more commonly as a 60 to 120 cycles per second buzz. Interference can be present both during recording or playing back of the record and will change with proximity to the interfering object.

The best way to solve RFI is to prevent it from occurring in the first place. This can be done by checking out the equipment before leasing or purchasing it. Because relatively few units sold by the manufacturer are used in RFI prone areas, manufacturers probably are not as careful as they could be about shielding against RFI.

If equipment already purchased has RFI problems, our experience has shown that line filters are of little help. In addition, capacitors soldered across the input usually tune the circuit rather than filter it. We have found that the best

solutions to eliminating or reducing RFI are to install low impedance, balanced microphones; try repositioning the cords or equipment until the RFI is tolerable; or find a qualified technician who can properly shield your equipment.

APPENDIX C

Equipment Selection Criteria

1. Immunity from RFI: Does the unit pick up unwanted signals which can degrade record quality? (There are two areas in the Anchorage court building that are prone to RFI. We test new units out in these areas.)
2. Six Hour Tapes: Can the unit handle the 0.5 mil tapes necessary to record six hours on a seven inch reel? Will the transport damage the tape?
3. Counter: Does the unit have a logging device which allows easy and repeatable search and return to a known location on the tape? Does the logging device correlate to the ones we currently use? Is there a manufacturer's option to correlate their logging device to ours?
4. Systems Compatability: Would we need to change connectors and cables or add mixers? What would be the impact of mixing this equipment with the type currently used as far as affecting in-court clerks' ability to troubleshoot and exchange faulty boxes? Would there be any media format problems in using tapes between courts with different equipment?
5. Physical Size: Will the unit require rework of benches and portable carts to retain visibility and bench space?
6. Brown Out: Will the unit operate at reduced line voltages? At 85VAC?
7. Control Similarity: Are the controls well laid out? Are they similar to existing controls? Are they ambiguous?

8. Delayed Monitor: Can the in-court clerk monitor that which was just recorded?
9. Sound Quality: Is the quality of sound acceptable?
10. Multichannel: Are there at least four discrete channels which may be isolated during playback?
11. Transcribing Cycle: Will the unit operate in the "play" and "rewind" modes for hours without malfunction or overheating?
12. Initial Cost: What is the cost of the unit in the configuration we would use?
13. Modification: What modifications will be necessary for the unit to be usable to us? What is the cost of these modifications?
14. Channel Indicator: Is there an indicator for each channel?
15. Overrecord Protection: Can the record be obliterated by over-recording?
16. Manufacturer Service: Is service of system-wide problems readily available? What experience have we had with this manufacturer in the past?
17. Noise: Is the unit noisy in operation?

Attached is a simulated criteria worksheet.

CRITERIA WORKSHEET

UNIT: Simulate XYZ
Conference Reporter

TEST DATE: 10/17/78

- | | | |
|--------------------------|---|---|
| 1. R.F.I. immunity | - | poor with supplied microphones, fine with ours |
| 2. 6 hour tapes | - | does not apply as the recording is continuous |
| 3. Counter | - | no correlation with present |
| 4. Systems Compatibility | - | It would require additional mixers. |
| 5. Physical size | - | Volume is smaller than that of AKAI, but counter space is more than double. |

- | | | |
|---------------------------|---|---|
| 6. Brown out | - | no test |
| 7. Control similarity | - | Controls are kind of ambiguous with two stop controls - I imagine people would adapt with time. |
| 8. Delayed monitor | - | yes |
| 9. Sound quality | - | not nearly as good as AKAI units |
| 10. Multi channel | - | yes |
| 11. Transcribing cycle | - | OK |
| 12. Initial cost | - | about \$3,000 |
| 13. Modifications | - | None to unit - It would cost about \$300 per location for modification to courtroom. |
| 14. Channel Indicator | - | no |
| 15. Overrecord Protection | - | yes |
| 16. Manufacturer Service | - | Average availability-problems with manufacturer in past. |
| 17. Noise | - | no |

APPENDIX D

Sound Reenforcement

A sound reenforcement system in a courtroom is essentially a public address system, but one in which it is not obvious to the speaker that he or she is being broadcast. We have found sound reenforcement to be helpful in all but the smallest hearing rooms. Our systems consist of the following equipment:

3 microphones @ \$70	\$210
3 feedback controllers @ \$87	261
1 mixer @ \$87	87
1 power amplifier @ \$50	50
2 speakers @ \$60	120
Total	\$728

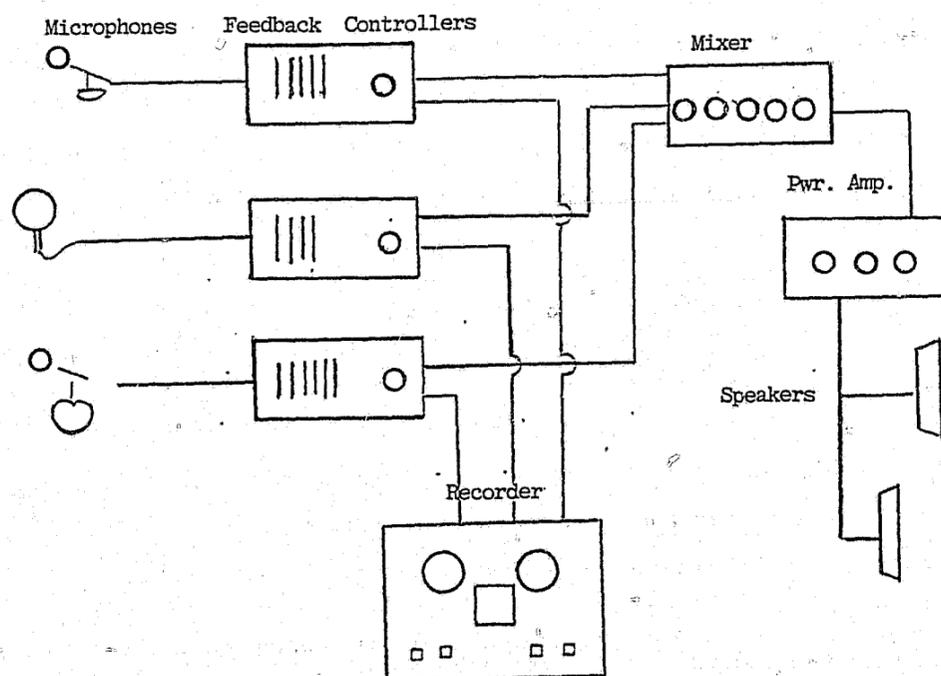
It is important to note that the microphones, amplifiers and speakers are used for electronic recording.* Thus our added cost for sound reenforcement is only \$348 per courtroom.

*Speakers are used in our electronic recording system for playback of the record in the courtroom.

A better approach to sound reenforcement is the use of an automatic mixer. This unit was not available in 1974 when we reenforced our courtrooms for sound. We are planning to install these in newly constructed courtrooms and to modify existing courtrooms when the opportunity arises.

The in-court clerk has setting control for individual microphones and this has presented no problem to us. The use of a lavallier (lapel) microphone in the witness box helps both the record and the sound reenforcement system. Attached is a schematic of our sound reenforcement system.

SCHMATIC OF COURTROOM
SOUND REENFORCEMENT SYSTEM



APPENDIX E
Wireless Microphones

A wireless microphone has no wire connecting it to the recorder or mixer. The wireless microphone typically uses radio waves as the transmission media. We experimented with their use and found them to be more trouble than they were worth. One of the problems probably was our use of relatively cheap units (\$650 each). We might have had more success with more expensive wireless microphones, but we would have had to more than double our investment. Another problem we encountered was the need to "baby sit" the wireless system. There are many idiosyncracies with wireless microphones such as battery voltages and antenna placement that make it almost impossible for the in-court clerk to handle. In addition, we had the problem of selecting a frequency that no one else was using. Thus we had to have a technician standing by.

However, when the wireless microphones worked, the quality of the record was phenomenal. We look for some manufacturer in the next few years to develop a wireless microphone that will overcome these problems. However, we still have concerns that the investment that will be required may be too high.

APPENDIX F
Courtroom Construction for Electronic Recording

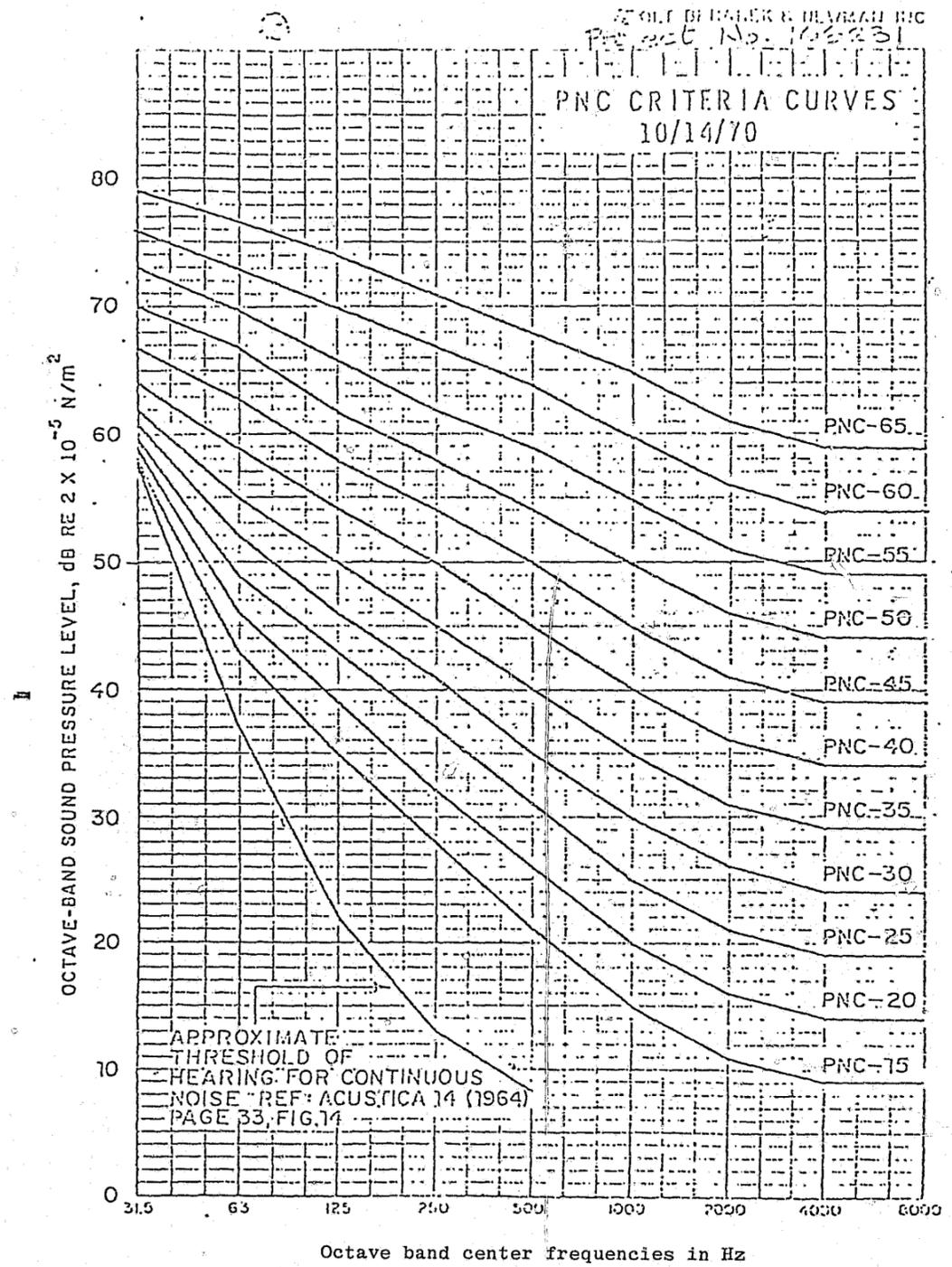
The following factors (listed in order of importance) must be considered in construction or modification of a courtroom for electronic recording and sound reenforcement.

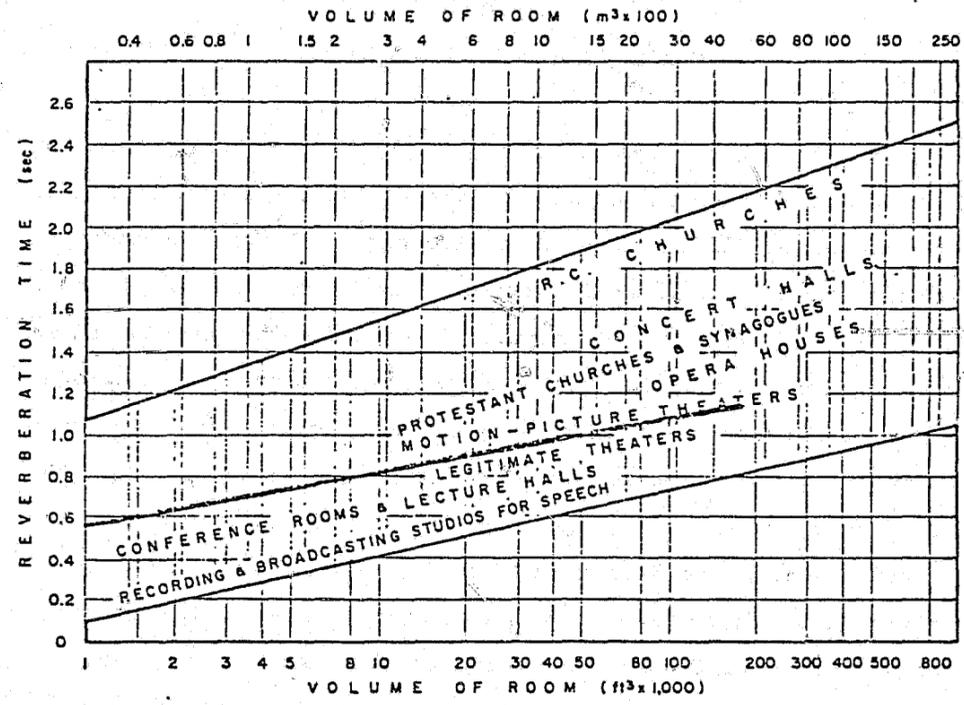
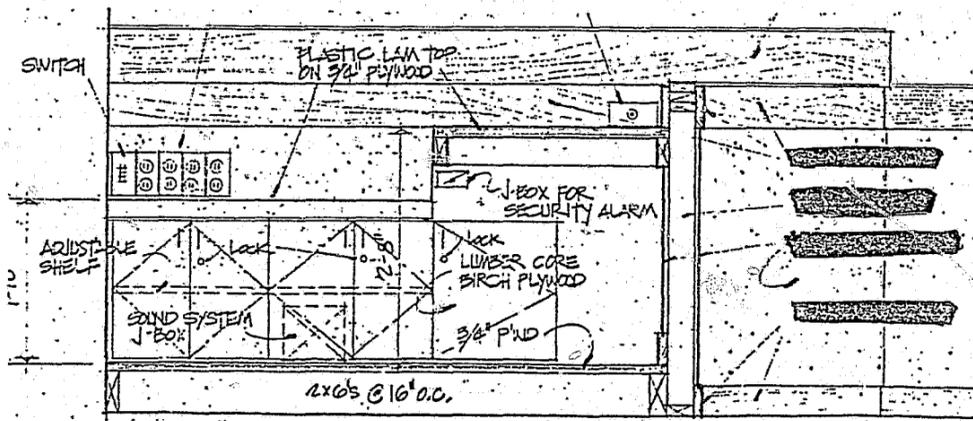
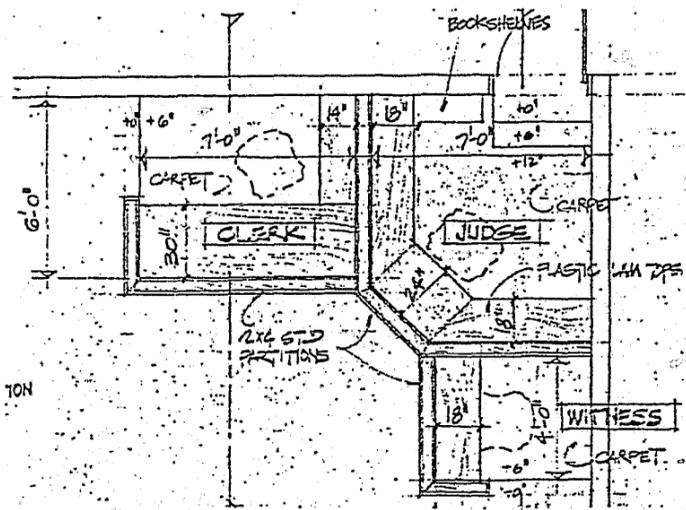
1. Ambient Noise Level: This measures the noise level in the courtroom. The quieter the room the better is the record and the more the room costs. There is a specification called Preferred Noise Criteria (PNC) that

measures the ambient noise level. (See attached graph of PNC curves.) We usually request the contractor to build PNC 25 courtrooms, but the end result is generally PNC 35-40 in most courtrooms. Some of the things which affect ambient noise levels are heating and lighting noise, plumbing, elevators, aircraft and cars, and foot traffic in the hallway. Contractors can usually help to reduce noise levels with minimal expense during construction. Therefore, we send detailed specifications to the architect and contractor when new courtrooms are being constructed or old ones modified.

2. Physical Placement: Our specifications also include placement of microphones, the courtroom phone, security system, bench locations and proper areas for the judge, clerk and witnesses. Attached is a standard plan we use for the construction of small courtrooms.
3. Reverberation Time and Flutter: This refers to how hollow or dead the room sounds. We adjust the reverberation time to just above that recommended for recording and broadcasting studios on the attached graph.

Flutter is prevented by ensuring that opposite walls are not parallel or, more commonly, by ensuring that opposite walls are not acoustically "hard".





APPENDIX G

Quality Control of the Record

One must first decide what quality level is acceptable for the record. A common measure of quality of the court record is the number of indiscernibles per 100 pages of typed transcript. We have never established a standard for this measure, but our rate of less than one indiscernible per 100 pages has satisfied us that the quality of our electronic record is more than adequate. Our measurement of quality is done at the time of transcription of the record by the transcription clerk (See the attached checklist). As explained in the body of this paper, the relative number of indiscernibles became so low that we found little value in continuing our monitoring system on a continuous basis. We now rely on oral feedback from our transcribers and the users of our transcripts. We plan to reimplement this quality control approach on a periodic basis to ensure that quality does not decay.

Some of the factors which we have found to degrade quality of the record include:

1. failure to perform a daily courtroom test of the equipment,
2. high ambient noise in the recording area, (See Appendix F),
3. high reverberation time in the recording area (See Appendix F),
4. microphone not proximate to speakers,
5. poor courtroom control of speakers, and
6. lack of a regular training program for in-court clerks.

By the establishment of a formal training program, by emphasizing the role of the judge in effective courtroom recordings, and by establishing an in-house equipment maintenance and train-

ing program, we have been able to maintain our records at a high quality level.

We concentrate our quality control feedback at the point when the record is transcribed. Since something less than five percent of court proceedings are ever transcribed, this might be considered quality control using a five percent sample. This sampling approach allows us to test quality without hearing all the records at all 70 locations. The feedback necessary to adjust faulty equipment on a timely basis is the in-court clerks daily test of the recording equipment.

RESOURCE PLANNING CORPORATION

October 17, 1979

Mr. James Hawkins
Executive Director
National Shorthand Reporters Association
118 Park Street, S.E.
Vienna, VA 22180

Dear Mr. Hawkins:

At the request of the National Shorthand Reporters Association, Resource Planning Corporation (RPC) reviewed the report entitled "Electronic Court Reporting in Alaska" prepared by the Office of the Administrative Director of the Alaska Court System (hereafter referred to as the Alaska report). The major purpose of this review was to analyze the report's cost comparisons between electronic and manual systems based upon the experience gained by RPC in performing their own study of electronic reporting in Alaska. RPC's study was prepared in April, 1978, and was entitled "A Financial Analysis of Electronic Reporting in Alaska."

There is obviously a great deal of apparent credibility that may accrue to a report on electronic court reporting produced by the Office of the Administrative Director of the Alaska Court System. It would be reasonable to assume that this Office would have the most complete knowledge of the electronic reporting system in Alaska and certainly would have no reason to distort or bias the results of such an analysis. However, after reviewing the report, it is my opinion that the cost projections and conclusions presented in the report are based upon assumptions that are not clearly delineated and also on cost information which is inconsistent with information provided to RPC in 1978 by the Alaska Court System. As a result, the findings of the report provide a myopic and somewhat one-sided comparison of electronic and conventional court reporting.

I offer the following comments to support this belief:

1. RPC reported the annual personnel cost for transcription in FY 1976 at \$213,676 and in FY 1977 at \$252,351. These figures were taken from the individual payroll records of personnel working in the transcription section during FY 1976 and 1977. Yet the Alaska report estimates their total FY 1979 personnel cost for transcription to be \$152,100. This represents a 40% reduction in transcription personnel costs from 1977 to 1979.

Additionally, based on biweekly status reports filed by the Anchorage transcript supervisor, RPC reported that 50,515 hard copy pages were produced in 1977, with a year end backlog of 9,563 pages. The Alaska report estimates that the Anchorage transcript section produces about 55,000 hard copy pages a year.

These two facts are totally inconsistent in light of RPC's observations. In other words, while salary costs and presumably personnel have been reduced by greater than 40%, the number of pages produced has increased almost 10%. This incredible figure, for which no source is identified, suggests a loose estimation may have been made for transcription clerk salary costs or that administrative innovation has improved Alaska transcription productivity beyond all reasonable expectation.

1401 16th Street, N.W.
Washington, D.C. 20036
(202) 797-1111



2. The equipment cost figures used in the Alaska report are based on an 11-year life span as compared to the 5-year useful life represented in the RPC report. This has the effect of reducing the annual cost for equipment to (\$7,280) in the Alaska report compared to the (\$10,988) figure used in the RPC report.

The Alaska report indicates that all of their AKAI units will be modified in the near future to extend their life another five years, thereby increasing their life span from 6 years to 11 years. It mentions the cost of modification will be about \$400 per unit. An 11-year life span compared to a 5- or 6-year useful life obviously has dramatic impacts on the pro-rated annual cost figure.

The problem of amortizing equipment is a complex issue, and the approach taken in the Alaska report is not only overly simplistic but somewhat deceiving. The approach used in the RPC report distinguishes between "useful life" and "life span." In the case of Alaska's electronic recording equipment, the concept of "useful life" provides a means of considering three separate cost issues:

- the cost of replacement parts inventories;
- the cost of commercial shipping to the state maintenance facility for repair; and
- the cost of obsolescence.

Although a piece of recording equipment may be operable after eleven years, during that period additional costs will have accrued to the equipment. It will have required routine and nonroutine maintenance and repair; thus accruing additional costs of parts and shipping. As the machine gets older, replacement parts become harder to obtain and the equipment becomes obsolete in relation to currently available equipment. In other words, as the equipment gets older, the cost of maintaining it increases to a point at which it may be more cost-effective to purchase new more advanced equipment. This concept is evidenced by the fact that Alaska began replacing Dictaphone and older AKAI models when they were only four years old, not because they were inoperable, but because they were not cost-effective in relation to the new more advanced equipment. The equipment thus had exceeded its "useful life."

Although we would not question the fact that the "life span" of the current AKAI equipment as modified might be approximately 11 years, its "useful life" or amortization period is likely to be significantly less (e.g., 5-6 years). The reasonableness of a 5-year useful life not only conforms to accepted scientific practice but also conforms to the beliefs of the Alaska maintenance technicians interviewed during the RPC study. For these reasons, the method to estimate equipment costs used in the Alaska report is not acceptable.

3. The Alaska report suggests that there is an extensive use of cassettes by parties which does not require transcription to hard page copy. The report maintains that this cassette usage represents an additional 35,000 pages of transcript that would have to be produced in a manual system. The report then adjusts the electronic reporting-transcript productivity by 35,000 pages to dramatically reduce the electronic reporting transcription cost per page.

This assumption overlooks three major problems.

- Although a cassette copy of a recording can be a byproduct of the reporting process and may certainly be useful when an official transcript is not warranted, the official record is the written transcript.

- A cassette copy of a recording does not represent a product of the transcription process, but rather a byproduct of the particular recording method. Should conventional court reporters who read back their notes for the convenience of interested parties claim that they have actually transcribed "x" number of pages and use this to adjust their transcription productivity? It appears that this is what the Alaska report suggests.
- Simply because the equivalent of 35,000 pages of transcript exists on tape does not mean that 35,000 pages would have to be or could be transcribed.

Although the convenience of the availability of a cassette copy should be considered, it is obviously not the cost equivalent of innumerable pages of transcript.

Due to these problems, the Alaska report's adjustment to their electronic reporting productivity is deceptive.

4. The section of the Alaska report dealing with the estimated cost of a manual reporting system is at best naive, and at worst a blueprint for an inefficient, and expensive "straw man." For example:

There is a clear assumption in the Alaska report that if court reporters are introduced at the state level they must be paid the same as court reporters working for the federal government in Alaska. They allocate this cost at \$31,545 annually. The report decides that 21 in-court clerks would have to be replaced by 21 court reporters at a total annual salary cost of \$662,445. Adding a 30% fringe benefit rate expands this cost to \$861,178.

The problem with this assumption is that it presumes court reporters will only be attracted to a state level job if they are reimbursed at a level commensurate with federal employees. In other court reporting studies that RPC has conducted, we have often found different salary scales paid to reporters by city, state, and federal jurisdictions all located within the same geographical area. While RPC was conducting its study, interviews with federal reporters in Alaska indicated that there exists a continuous flow of applications for federal reporting positions within the State. The supply of qualified reporters far exceeded the local demand. This fact, coupled with the typical stability of the commercial market, suggests no recruitment difficulties in Alaska. The effect of the Alaska report's assumption is to overestimate the personnel costs of a realistic manual system by a minimum of 5% and a maximum of 31%. For this reason, the Alaska report's assumption that only providing a federal level pay scale will attract competent court reporters seems unrealistic.

5. The Alaska report indicates that there are currently 21 in-court clerks serving the Anchorage system. It further suggests that a comparable manual system would require that each of these clerks would have to be replaced by a court reporter.

RPC believes that 21 court reporters is not a true indication of the Anchorage need. Typically, an efficient court reporting system assigns reporters based on the number of courts in the system; one reporter to record for one judge or court. The 1976 Alaska Annual Report indicated that the Anchorage court system consisted of 8 Superior Court judges and 7 District Court judges, which formed the basis for RPC's manual court reporting system estimate of 15 personnel. One extra court reporter was added to serve the Supreme Court, which sits in Anchorage. Therefore, the RPC report estimate was based on 16 reporters to

serve 15 judges and the Supreme Court; not 21 reporters to replace 21 in-court clerks. The effect of the Alaska report's assumption is to overestimate the cost of court reporters in a manual system by approximately 25%.

In updating our research, RPC discovered that the number of judicial personnel assigned to the Anchorage system remains consistent with the 1976 annual report. Based on this finding, RPC believes the Alaska report's personnel estimate of 21 reporters is not an accurate reflection of a manual system's need in Anchorage. We find no reason to adjust our own estimate that 16 court reporters is a more accurate assessment.

6. Both the Alaska report and the RPC report estimate that 70% of the duties of the Alaska in-court clerks are related to electronic recording and transcription. The use of a manual reporting system eliminates those responsibilities for the in-court clerk and transfers them to the court reporter.

The Alaska report maintains that in a manual system, in-court clerks will still be needed even though they would perform significantly more limited functions (i.e., 30% of their current duties). To reflect this need, the Alaska report estimates the personnel costs of a manual system alternative by adding their current in-court clerks costs to their projected cost for court reporters. In so doing, the Alaska report assumes that an in-court clerk position should be compensated at the same salary level even though the duties required of the position have been reduced by 70%. It is obvious that elimination of these duties dramatically reduces the responsibility of the position. Such a reduction also reduces the qualification and experience levels necessary for personnel filling these positions. This indicates a lower salary level could be paid to recruit such personnel in a manual system than would have to be paid in an electronic system.

RPC addressed this issue in its cost estimate alternative of utilizing court reporters and in-court clerks. Recognizing that most in-court clerks were assigned a Clerk III position in the Alaska system at an average FY 1977 cost of \$17,000, RPC assumed that the new duties for the in-court clerk position would reduce the demands on the position and would require no more than a salary level equivalent to a Clerk-Typist position at approximately \$12,000 FY 1977 annual cost. Obviously, in any reorganization, existing personnel would have to be grandfathered into the new system. However, with the dramatic reduction in duties, replacement personnel can be recruited at a lower salary level. This lower salary level for in-court clerks seems far more appropriate than the simple addition of the cost of electronic system personnel onto a manual system while eliminating 70% of their job requirements. The effect of the Alaska report's assumption is to overestimate the personnel costs of a realistic manual system by approximately 29%.

7. The Alaska report assumes that the \$2.00 page rate currently being charged by transcribers in the electronic system is appropriate as opposed to the \$1.50 per page rate being charged by the federal court reporters in their manual system. It is interesting to note that the Alaska report believes two different page rates can exist in the State (\$1.50 for federal; \$2.00 for state), but not two different salary levels (the manual system personnel rate is based on the federal salary of \$31,545). While we would not argue that \$2.00 could be charged, we would also point out that a page rate of \$1.50 has proven to be a reasonable charge within the State. The effect of the Alaska report's assumption

CONTINUED

3 OF 5

is to overestimate the transcription costs of a realistic manual system by approximately 33%.

8. The Alaska report argues that there are three other considerations that account for additional cost advantages for electronic reporting which are not typically included in most cost analyses.

It maintains that, nationally, many courtrooms require microphones and speakers for sound reinforcement. Therefore, the Alaska report argues, some of the costs allocated to electronic reporting equipment could appropriately be prorated to sound reinforcement.

RPC agrees with this attitude and, in fact, equipment such as microphones, speakers, amplifiers, and equalizers were specifically excluded from our equipment cost category estimates. However, in spite of consideration of this sound reinforcement issue, RPC still found equipment costs to be much higher than are allocated in the Alaska report.

9. The Alaska report maintains that storage of video recordings and disks decrease the storage and space cost requirement. However, with the use of electronic media transcription is still required to be placed on paper, indicating the need for some storage space for this product. Additionally, the Alaska report maintains that as the electronic recording media decrease in cost, paper will increase in cost. Certainly no evidence is offered in the report to assess the accuracy or effect of this assumption; and in fact we would expect inflationary effects to be equal for both paper and recording media.
10. The Alaska report argues that the cost gap between electronic and manual court reporting will increase dramatically over time due to inflation. The main evidence offered for this argument is that inflationary costs for a method dependent upon personnel expenditures would probably continue to increase at a greater rate than a method based partially on electronic technology costs. The fallacy of this assumption is evidenced by the fact that 90% of the costs allocated to electronic reporting are personnel costs - costs for in-court clerks and transcribers. In light of this statistic, it is highly likely that inflation will affect both methods of court reporting.

It must be emphasized that both the Alaska and the RPC report reflect only the operational costs of an experienced system. Neither report can be used to estimate the costs of initiating and implementing such a system in a new environment. The implementation costs to Alaska are irretrievable. Therefore, both reports have ignored the costs of the failures, the problems, and the trial and error inherent in the implementation of any radical change within a court system. Any reader projecting such a change from one system to another must consider this cost.

In summary, the preceding examples demonstrate the Alaska report to be of questionable utility in evaluating the cost implications of electronic and conventional court reporting. For a document of its potential impact, I believe the report falls short of meeting minimally acceptable standards of objectivity. The report's untenable assumptions coupled with the lack of analytical rigor may both deceive and mislead the uninformed reader.

Yours sincerely,

B. Thomas Florence
B. Thomas Florence, Vice President

Response to Critique by the
Resource Planning Corporation (RPC) to
"Electronic Court Reporting in Alaska"

By Merle P. Martin
Manager of Technical Operations

I will respond in the same paragraph numbering used by Mr. B. Thomas Florence in his October 17, 1979 letter to Mr. James Hawkins, Executive Director, NSRA.

1. "... administrative innovation has improved transcription productivity beyond all reasonable expectation." But that is exactly what has happened. By decreasing personnel to only those most qualified (thereby eliminating the need for extensive training) and by eliminating unnecessary proofing, half the number of transcribers are now producing more pages than the entire section did in 1978. I can understand Mr. Florence's disbelief for we were somewhat astounded at this development ourselves.
2. John Stechman will address this concern in some detail. However, let me address the contention that the "... reasonableness of a 5-year useful life not only conforms to accepted scientific practice...." I have twenty years logistics experience and, until a year ago, was State Director of Logistics for the Alaska Air National Guard. In addition, I have 15 years experience and an advanced degree in operations research. There is nothing at all "scientific" about a 5-year useful life. In fact, the 5-year figure has as its roots accounting practice based on allowable tax writeoffs for equipment depreciation. In the United States Air Force, as an example, where taxes are not germane, a "5-year useful life" does not exist as an equipment policy. Our Akais have already been in use six years without any unit having been discarded. So much for the 5-year life.

3. "...the official record is the written transcript." This is not true. The official record is the electronic recording. When the official record must be transported to a location other than the electronic tape library, it can be transported by means of either a duplicate tape, a typed transcript, or a cassette copy. The cassette copy is not a spinoff -- it is a substitute for a typed transcript. As an example, daily grand jury hearings are electronically recorded, cassette copies of the record are made, and these copies sent to the District Attorney and the Public Defender. If the cassette media were not available, then typed transcripts would have to be prepared. Thus the cassette is a substitute for typed pages, a substitute made possible by electronic recording of the record. As a direct substitute, cassette pages are in every way as valid a measure of production as typed pages.

"Should conventional court reporters who read back their notes for the convenience of interested parties claim that they have actually transcribed "x" number of pages and use this to adjust their transcription productivity." Of course not. That is why we did not count playback of testimony in the courtroom or the widespread practice of attorneys listening to the electronic record rather than requesting a transcript. The key factor is the transport of the record to another location. If it must be transported, then a copy must be made -- this copy is production. If there is no transportation, then there is no production.

But let me finally put this point to rest. It doesn't make any difference whether you count cassettes as production or not. Please refer to Exhibit 7, page 30 of our report. Note that total costs are shown rather than costs per page. I

cannot see how a reasonable person can accept the RPC position on cassettes, but if I am wrong the salient point is that it makes no difference. The totals of Exhibit 7 remain the same.

"...[the cassette copy] is obviously not the cost equivalent of innumerable pages of transcript." I couldn't have said it any better myself.

4. Mr. Florence is apparently quite unaware of the salary situation in Alaska. Following is a list of current beginning salaries for selected state personnel:

Governor/Supreme Court Justice	\$70,068
Superior Court Judge	63,120
District Court Judge	54,480
Director of Personnel (Court System)	45,372
Probate Master	45,372
In-Court Clerk	19,536
Transcriber	19,536
Criminal Department Supervisor	25,584

It is the policy of the Alaska Court System to seek the best employees available. To do this, salaries are set at a range that is competitive with commercial and other government agencies. A court reporter for the U.S. District Court in Alaska receives a salary and cost-of-living allowance totalling \$31,545. That would be the minimum salary we would establish for a court reporter position.

5. "RPC believes that 21 court reporters is not a true indication of the Anchorage need." It is certainly true that there are eight superior court judges and seven district court judges in Anchorage. However, there is also a traffic magistrate who uses a courtroom and three masters (probate, divorce, and juvenile) who use hearing rooms. In Alaska, traffic, probate, divorce, and juvenile proceedings are a

matter of record and thus must be recorded. In addition, we have a courtroom for one visiting judge who sits six months a year and for other judges who travel to Anchorage to hear matters. It is not unusual for all courtrooms and hearing rooms to be in use at the same time. Indeed we have had to construct two additional, temporary courtrooms to accommodate visiting judges who have been sent to Anchorage to alleviate a backlog of civil cases. It appears likely that our legislature will pass a bill authorizing two more superior court judges in Anchorage. It would be unreasonable that we would replace our current 21 in-court clerks with 16 reporters.

As to the contention that we would pay an in-court clerk \$12,000 rather than \$17,000, it is speculative at best. It must be stressed that operating the electronic recording equipment and keeping log notes are not complex tasks. It is questionable whether elimination of these tasks would lead to reclassification of the position.

But in any case, Mr. Florence does not have his facts straight. A range 12 in-court clerk now has a starting salary of \$19,536. A range 10 clerk/typist now has a starting salary of \$17,280. The difference is \$2,256 rather than the \$5,000 claimed by Mr. Florence (By the way, the salary for the in-court clerk cited above is different from that in our report due to a recent salary increase.) So even if one were to accept Mr. Florence's argument, the total impact would be as follows:

Difference between range 10 and range 12	\$ 2,256
Plus 30% fringe benefits	677
Total	\$ 2,933
Times 21 in-court clerks	\$61,593

Please refer to Exhibit 7, page 30 of our report. The computed costs of manual court reporting with in-court clerks is \$1,529,598. A reduction of \$61,593 is an impact four percent.

The RPC letter makes appalling use of statistics. Let us assume that the RPC facts had been correct and that there was a \$5,000 difference between the salary of a clerk/typist and an in-court clerk.

The RPC letter states "The effect...is to overestimate the personnel costs of a realistic manual system by approximately 29%." Mr. Florence apparently reaches this conclusion by dividing the \$5,000 difference by \$17,000 to arrive at a percentage figure of 29.4 percent. But this totally ignores the fact that in-court clerk costs are only a portion of total costs. Let me demonstrate this point by the following calculation.

Difference between \$17,000 and \$12,000	\$ 5,000
30% fringe benefits	1,500
Total	\$ 6,500
Times 21 in-court clerks	\$136,500

If we divide \$136,500 by the above cited total cost of \$1,529,598, the percent impact is less than nine percent, not 29 percent. Mr. Florence makes this error throughout the report when computing cost impacts.

- Mr. Florence again demonstrates his lack of knowledge of Alaska. The \$1.50 per page rate being charged by federal court reporters is not reasonable in Alaska. It has only remained at that rate because it is set on a national basis with no adjustment for cost of living. Alaska's cost of living is approximately 33 percent higher than the average for the rest of the country. Adding 33 percent to the \$1.50

rate creates a rate of \$2.00 per page, the current commercial rate. Why should we force court reporters working for the state to charge any less? But, again referring to Exhibit 7, the more salient point is that even if court reporters were to provide transcriptions free of charge, electronic court reporting would still be less costly.

8. The comment on sound reenforcement is noted. As to the statement "...RPC still found equipment costs to be much higher than are allocated in the Alaska report," please refer to 2 above where I discuss the life span of equipment.
9. Mr. Florence agains shows a lack of understanding of electronic court reporting. He states, "However, with the use of electronic media transcription is still required to be placed on paper...." For five percent of our electronic records, that is true. That's all we transcribe to paper. It seems clear that the paper storage required for five percent of the record will take one-twentieth the storage space as will the paper required for the entire paper record. In electronic court reporting, you don't have to transcribe to paper.

"...we would expect inflationary effects to be equal for both paper and recording media." This is patently ridiculous as anyone in data processing or electronics can tell you. I suggest a few phone calls to check this out for North Dakota.
10. Referring to Exhibit 4 on page 26 of our report, total personnel costs associated with electronic court recording are \$640,520. Referring to the last line on page 27 of our report, personnel costs for court reporters would be \$861,178.

This is a difference of \$221,658. At a conservative assumption of a ten percent annual inflation rate, this difference would become \$356,982 in five years -- a total increase of 61 percent.

Unnumbered: "Neither report can be used to estimate the costs of implementing such a system in a new environment," I concur. Any consideration for implementation of electronic court reporting must be accompanied by a careful cost/benefit analysis based on the estimated life of the equipment. While such analysis will show substantial operational savings, funds may not be available for the initial investment.

Conclusion: "The reports untenable assumptions coupled with the lack of analytical rigor may both deceive and mislead the uninformed reader." That is a blatantly unprofessional statement, and it is not the only statement in the RPC letter that infers a desire on our part to deceive the reader. Besides its unprofessionalism, the inference makes no logical sense.

We are not receiving commissions from electronic vendors. We aren't out to "get" court reporters. The responsibility for electronic court reporting was assigned to Technical Operations only two years ago. Electronic court reporting is not a child of mine that I need defend. I certainly value my professional reputation too highly to engage in any deception. That would be a timebomb that would explode in my face when another jurisdiction implemented electronic court reporting due to the influence of our report, only to find it didn't work.

No, what you find in our report is the truth as we see it. Nothing in the RPC reply leads me or others of the Administrative staff to change our report. But I do think it is time that

electronic court reporting be studied by a neutral group not under salary or commission to NSRA or the Alaska Court System. I would welcome such a study for it seems to me that when the contentions of one side to a controversy become enmeshed in unprofessional language, the time for enlightened discussion has passed.

Response to Critique by the
Resource Planning Corporation (RPC) to
"Electronic Court Reporting in Alaska"

By John Stechman
Electronic Engineer
Technical Operations
Alaska Court System

I will respond solely to the paragraph numbered 2 in the October 17, 1979 letter from Mr. B. Thomas Florence to Mr. James Hawkins, Executive Director, NSRA.

Mr. Florence has presented an excellent, brief and generalized synopsis of equipment cost amortization. Yet in his own words, "The problem of amortizing equipment is a complex issue,..." I could not agree more. It is important that persons attempting this task for a particular type of equipment have some small knowledge of its operation, construction, and repair techniques. Generalizations may work well in setting broad guidelines for tax purposes, and that is the obvious source of the 5 year life span, but any particular case will require the intelligent use of specific facts. In order that our cost amortization procedures for the Akai tape recorders may be well understood, I will address each of Mr. Florence's cost issues in turn, and specific detail.

The cost of replacement parts inventories.

Modern electronic equipment, unlike complex mechanisms such as an automobile, tends to be a collection of standard, off-the-shelf

components arranged in a unique fashion to perform a particular junction. It is for precisely this reason that the popular press abounds with "build-it-yourself" articles instructing the hobbyist on how to build their own electronic equipment. The Akai tape recorder is no exception to this general rule. If one repairs this device down to individual component level, it will be found that the vast majority of parts then required can be purchased from a local electronic parts distributor at very modest prices. Such parts are in no way unique to the Akai, nor is there any fear of obsolescence. The very first commercially available transistor still may be directly replaced with one offered by no less than nine different manufacturers. And, at less than 10% of the cost of the original device 25 years ago.

Mechanical and electro-mechanical parts tend to follow the same scenario. The reason is simple; manufacturers are notably reluctant to invest money in tooling to produce special parts when standard items will suffice. Again we find items such as bearings, solenoids and connectors available from stock at local distributors all being used in a broad spectrum of manufactured items.

There are some few parts unique to the equipment, and for some of these inventories must be maintained. The exceptions are structural and cosmetic parts for which there is little or no expectation of replacement need. If initial selection of equipment has been made with an emphasis on potential durability, the inventory of proprietary parts can be kept quite low.

Unlike the generalities espoused by Mr. Florence, these specifics form the basis for an inventory system that has served us well. The cost of the inventory is indeed most modest, and the quantities involved very low, as evidenced by the entire storage needs being

met by one three foot by six foot set of shelves. This, I must point out, suffices well to supply over 100 recorders servicing the entire State of Alaska Court System.

We see no trend towards an increasing high failure rate in the Akai. Extrapolation of mechanical wear rates observed indicate that an 11 year useful life may in fact be conservative. As one might expect of well designed solid state electronic circuitry, perhaps most failures occur in the first few years of the equipments life as weak components are "weeded out." For these reasons it is highly unlikely that any significant upward changes will be made in our present inventory levels.

The cost of commercial shipping to the State Maintenance Facility for repair.

Transportation costs are indeed a legitimate consideration in determining service life. Again resorting to simplistic specifics, we must consider that approximately one-third of all Akai recorders reside in the Anchorage courts. For these units, the question of transportation cost is moot; the State repair facility is in the Anchorage courthouse. For the balance, transportation costs will vary widely. Alaska is a fairly large state depending almost entirely on air freight. We can gain a feeling for maximum costs by considering the cost of returning a defective recorder from Ketchikan in extreme southeast Alaska to Anchorage and shipping its replacement back. Since the average repair interval is just over one year, the cost incurred in this example per year will be \$71.86, or under 10% of the unit's acquisition cost.

The cost of obsolescence.

Obsolescence may be defined as being no longer functional or

useable, or out of fashion. As indicated previously, our analysis shows that service requirements for the Akais have little likelihood of increasing above current levels for some time. This leaves us with those costs attributed to operational inefficiencies of the equipment as compared to more modern apparatus. To analyze this aspect of obsolescence, one must know more than a little about recording technology and its likely directions. Otherwise one may purchase only to soon find a technological jump has rendered their equipment comparatively inefficient and no longer cost effective.

Such a jump prompted the change from Sound-Scribers to Dictaphones. Yet another technological jump, three years later, led to the Akai systems, none of which, contrary to Mr. Florence's statement, have ever been replaced. At this time we see no technological advances at our level of consumption that will make replacement of the Akais cost-effective on the basis of performance in the immediate future. Such major advances are coming to be sure, but realistic and educated opinion places them about five years away.

No equipment design is without its "soft" areas; portions that could have been done better. High in overall quality though it is, the Akai has several of these areas. We have engineered improvements and are incorporating them into machines as they come thru the shop for routine service. It should be emphasized that each of these few modifications has been thoroughly examined for cost effectiveness, and will serve to yet further reduce our already low failure rate.

Function can always be improved. Our long history with electronic court reporting has given us the experience to know what features are desirable from a cost and quality of record standpoint. An ongoing market survey has thus far shown us no machine capable of

giving us all these functions. For this reason we intend to incorporate certain functional changes in the Akai in the near future. We find we can do this at far lower cost than purchasing new equipment, and reap the benefits of improved functions.

Summary.

Our cost amortization of the Akai recorders and associated equipment then rests upon the following facts:

- 1) Most repair parts required are common, off the shelf items we need not stock.
- 2) Those unique parts that must be stocked are few in number and low in cost.
- 3) Failure rate analysis indicates no increase in service needs. Indeed, service requirements may decrease in the future.
- 4) Transportation costs for Alaska are a valid consideration and highly variable, ranging from zero to less than 10% of the acquisition cost per year.
- 5) Functional changes desired are few and may be added to the present system at far less cost than incurred in the purchase of new equipment.

Conclusion

I feel Mr. Florence's contentions regarding cost amortization are preposterous and a portentous example of ill-conception. If his contentions were in the least correct, the aviation industry

alone would have consigned ten's of thousands of profitable aircraft to the scrap heap long ago. As an individual engaged in the engineering professions, both mechanical and electronic, for over 25 years, I find myself embarrassed and ashamed by such a blatant example of unprofessional writing and thinking. The issue of manual court reporting vs. modern technology requires the clear, concise utilization of facts, not the casting of veiled innuendos. It would be personally and professionally foolish of me to support an issue which facts can not support. That would only serve to discredit me in the future. My sole obligation is to see that the people of Alaska get the best and most effective possible form of court reporting. If the facts should ever indicate that this form is other than electronic recording, I will cheerfully bow out and return to designing satellite instrumentation.

Although I stated that my comments related exclusively to paragraph #2, I cannot refrain from a final comment relating to paragraph #9 regarding comparison of media costs. Mr. Martin covered the question of such costs for the status quo well and truly. However, one of the functional modifications being applied to the Akai utilizes a technique universally used by the communications industry, that of multiplexing. This, in our case, will allow fully four times as much information to be put on the same tape as is currently possible. I await with eager anticipation a demonstration of the same degree of data compaction on paper media by a shorthand reporter.

Senator DOLE. Mr. Polansky?

STATEMENT OF LARRY POLANSKY, EXECUTIVE OFFICER,
DISTRICT OF COLUMBIA COURTS, WASHINGTON, D.C.

Mr. POLANSKY. Good afternoon, Senator Dole and Mr. Velde. I thank you for the invitation to speak. I guess my role is to comment as a court administrator who has had experience with the various court reporting methods. Mr. Gimelli has worked at them all. I have had to administrate in courts that have used them all. I believe he does his job better than I do mine.

I have worked with computer-assisted transcription in Philadelphia. We installed what was, I think, the first court-operated computer-assisted transcription unit. You might ask questions such as, "Does the CAT technology work and is it ready?" Yes, it was ready in 1976. The technology does work. I think it works perhaps 100 percent better today than it did then, but it worked then.

The second question for me could be: "Can a court operate a computer-assisted transcription unit?" The answer is "yes" and "no." Physically and technically the court can operate a computerized unit. The question is whether that is the best way to go about it, whether court reporters really want to work with a court-operated unit, and whether the court really wants to invest its resources in operating that kind of facility. I think that question is still open. Other people are to testify who are much more prepared to speak to that than I.

Will the court reporters take part in computer-assisted transcription? That deserves another yes and no answer. Some will and some will not. It takes a particular kind of reporter to work with computer-assisted transcription. Generally speaking, they must be very standardized in their approach to stenotype writing. Some will want to do that and some will not.

Finally, is there a cost benefit with computer-assisted transcription? In my opinion, we were able to break even in Pennsylvania. I think they could break even today with a court operated system. I do not think that break even is a problem. When reporters use service bureau type computer-assisted transcription units, they pay for the services which are provided to them and they get faster turnaround.

I could say a lot more about computer-assisted transcription. We do not have enough time and so I have submitted for the record an article I wrote some 5 years ago explaining and describing the Philadelphia system.

I have also had some experience with voice writing. As a matter of fact, Mr. Gimelli, under a Federal grant, trained some voice writers for us in Philadelphia. Our results were mixed. The voice writers were trained very quickly. They seemed to be very capable. The other side of the coin was that only one of those eight or nine who were trained ever applied for the job or worked as a court reporter in Philadelphia. It is my understanding that none of those reporters now work in Philadelphia.

What I would really like to speak to, and I have submitted for the record a just-written report on the matter, is some innovative sound recording being done in the District of Columbia. In the District of Columbia courthouse, we have in place a central record-

ing system. It is an eight-track reel-to-reel recording system. There are now 14 courtrooms and/or hearing rooms operating off the central unit. There are six more rooms that will be on-line by July 31. I believe that, eventually, all 44 courtrooms and 6 hearing rooms will have sound recording equipment in the District of Columbia courthouse.

The sound equipment is used primarily in high volume, low transcript production courtrooms. It works well and there is good turnaround on the transcripts prepared from the product of this operation.

The staff required to operate the central recording system is much smaller, however, than that required to operate a full court reporter system. A staff of three monitors the central recording room, hands out microphones in the morning, accepts them in return at the end of the day, duplicates tapes that need to be transcribed, et cetera. In short, a staff of three persons at the central recording operation supports 20 operating courtrooms and/or hearing rooms.

There have been many problems—you have probably read a lot of material about the subject—with audio equipment in the past. If there is or was any problem with audio equipment, the District of Columbia has experienced it over the last 12 years in which they have worked with audio equipment.

I would offer, however, that the central system we are currently using answers many of the problems including such problems as inaudibles. For example, there is something called automatic gain control on our sound system that picks up low sound and amplifies it for us and, as a matter of fact, lowers very heavy sound so that it is listenable.

The tape gap problem we believe has been solved by manual and/or personal monitoring. We also have a computer console that monitors all of our recorders in the central room. There are read heads located right after the recording heads. The system electronically monitors whether or not sound is going on to the tapes. Every 10 minutes, the operator manually monitors the sounds that are on each of the tapes for each of the courtrooms.

Multichannel recording answers some of, if not most of, the overspeak problem where multiple people are speaking at the same time.

The problem with poor operators of the individual recording units is solved, I think, by the central system. The only equipment in the courtroom is the microphone. The court staff picks up the microphones in the morning and returns them at night. The other piece of equipment that courtroom staff have to operate is a switch that says on and off. They turn that on or off, or they pickup a telephone and call the central recording room which turns the system on and off.

Our service problems are minimal because the service is all performed by our three professional staff people. They do our preventive maintenance and do some of the major repairs of the equipment as well.

We have eliminated one of our early major problems that of equipment loss. Sound equipment is very desirable equipment. We used to lose a lot of it. We do not now lose very much of it because

now the only thing in the courtroom is the stand on which the microphone is placed when it is received from the central recording office.

Tape changing, which used to take a lot of time in the courtroom, does not take a lot of time today because it is done professionally and centrally. It takes less than 1 minute. Since the tapes run 3 hours apiece right now, there is very seldom a need to change other than at the luncheon break.

Logging is done by the clerk in the courtroom and will continue to be done by the clerk in the courtroom.

One of the major problems evidenced in individual audio equipment is when you do get a breakdown you have substantial interference with the operation of a courtroom. We run with a spare unit on our central system. If there is a breakdown in the courtroom, there is a switch over to the spare.

Basically what I am trying to say to you is that we believe we have addressed the major problems with audio equipment with our central system.

In passing, there are a couple of other things that have occurred because of that central system. We are able to do sound reinforcement—the automatic gain control as I indicated. We have also made the sound system a playback system so that we can play back from the central recording room into the courtroom.

There are some safety devices on the computer. If you attempt to record, for example, over a tape on which recording has already occurred, a buzzer goes off and says you cannot use this tape. That is something that does not always happen with an individual unit.

I have been very leery about permitting cost information on our unit to get outside because I could never get a good handle on that information. Your hearings have forced me to do my homework. It has cost us approximately \$20,000 per unit to install the units we have today. Additional units will cost us approximately \$12,000 each.

In summation, central audio recording, in my opinion, in a proper setting is a viable, cost-effective alternative. It works. I invite you to come see our system, sir.

Thank you.

[The prepared statement of Mr. Polansky and Lee Barthlow and report submitted by Mr. Polansky follow:]

PREPARED STATEMENT OF LARRY P. POLANSKY AND LEE BARTHLOW*

The use of audio recording devices, in place of the traditional court documentation methods, has had a somewhat controversial history in the United States. Much has been written, both pro and con, regarding electronic documentation but, our purpose is not to address that issue. (See Attached Bibliography)

Rather, we will address the operation of the central audio recording system which has been in place in the D.C. Superior Court for three years. This advanced recording technology system has convinced our management that electronic documentation, when supervised by professionals, is convenient, efficient, economical, speedy and, most importantly, provides a quality end-product.

The Superior Court recording effort utilizes a centrally controlled system for the electronic recording of daily court proceedings. It may someday encompass all forty-four courtrooms and several hearing rooms, but is presently connected, primarily, to the high volume courts — that is, Small Claims, Landlord and Tenant, Preliminary Hearing, Arraignment, Traffic Court, Calendar Control, etc., where limited amounts of transcription of testimony are normally requested. Several regular trial courtrooms are covered by the system, but almost always as back-up to a staff court reporter.

The system uses eight-track, reel-to-reel recording machines connected to the central recording location and, we are told, is the first of its type in the United States, though patterned after two successful systems in Canada.¹

History of Audio Recording at The Superior Court

Experimentation with electronic recording methods began in the District of Columbia in the early 1970's. Several six-track tape recorders were purchased and placed in the high volume or statutory courts, where, we are informed, court reporters prefer not to be assigned.

There could hardly have been a less encouraging beginning. The machines were installed in separate locations, and an operator was required for each machine. Since there were no funds to hire a trained technician for every courtroom machine, courtroom staff were given the responsibility for machine operation and upkeep. The untrained courtroom staff did little more than turn the machine on and off. Consequently, there was little, if any, tape monitoring done, and problems were discovered only as they became critical. Infrequent and ineffective cleaning of the machines, improper loading and unloading of the tapes, inadequate microphone placement and poor level settings for the individual recording tracks led to inferior recording and, unfortunately, frequently to no recording at all. There were frequent thefts of equipment, record logs were not consistently or accurately kept and the tapes were improperly stored.

To add to the miserable situation, the machines utilized were not designed for active courtroom use of up to five to six hours every day. As

¹ The Court of Justice in Montreal, Canada contains ninety (90) Courtrooms which are serviced by a two-track central recording system.

The Law Courts Building in Halifax, Nova Scotia houses eleven (11) Courtrooms which are also served by a two-track central recording system.

* Larry P. Polansky is the Executive Officer of the District of Columbia Courts.

Lee Barthlow is Director of the Central Recording Unit of the Superior Court of the District of Columbia.

the machines began to wear under the heavy load, breakdowns became frequent, and repairs grew more expensive and time-consuming. The machines were "down" (not operating) much of the time, resulting in lost testimony and interrupted proceedings.

This led to the recognition that there had to be a better way to record testimony electronically. The Court sought and found heavy duty eight-track equipment which could stand up to the long work day and still produce good sound recording in poor acoustical surroundings. This, unfortunately, did not solve all of the problems. Although the equipment fared much better than had the earlier six-track machines, untrained courtroom staff continued to be lax in their monitoring, nonchalant in their maintenance, and disinterested in the success or failure of the system. The Court soon realized that high quality equipment was not all that was needed for a successful sound recording program.

Developing an Alternative Approach

Just as plans were getting underway for the construction of the new courthouse, the Court heard of the two central recording systems in Canada. After on-site review of these systems, the Court decided to try to incorporate the Canadian concept into the plans for the new courthouse. Although the Court altered aspects of the Canadian design to accommodate the special needs of the D.C. Court System, the basic Canadian concept, (the concentration of all recording, replay and control equipment at a central location, manned by skilled professionals and connected to the various courtrooms via cables) was implemented. Much credit must be given to the Canadian Courts for their foresight and pioneering efforts which made our task so much easier.

Because of a limited budget, it was impossible to connect all forty-four courtrooms to the system at once. All of the necessary basic wiring, however, was installed before the inside walls of the new courthouse were completed. Only ten courtrooms and one hearing room were fully equipped and put into operation in 1978. The system has, however, been expanded in small increments (through Grant and appropriated funds), until today, there are fourteen (14) working units with an additional six (6) units due in by July 31, 1981.

Description of the System

At the heart of our system is a central control room, located on the second floor of the D.C. Courthouse. Multiconductor cables extend from the central control room to every courtroom and hearing room in the facility.

Despite the apparent complexity of equipment in the control center and courtrooms, only two cables are required to connect them; a "fifty-wire" audio cable and a "twenty-four wire" control cable. Laid side by side, these cables can fit into conduit no more than an inch and a half wide.

In each operational sound serviced courtroom (or hearing room), microphones are placed at the judge's bench, the witness stand, the clerk's bench, the defense table, prosecution table, the jury box, and the center podium, with two extra mikes at both sides of the bench for general coverage. These microphones feed through cable to the central control room and then to the specific eight-track channel recording device. With the exception of the microphones and the digital display, all courtroom equipment (the channel selector and the amplifier) can fit in the bottom of any small table and the microphone wires can be hidden and protected by floor sheathing.

Major Benefits and Features

The major benefits of the costlier eight-track recording have been the depth, clarity and overall quality of the product and the attendant ease of transcription. With the individual channels, each voice can be isolated by the transcriber, even when several people have spoken at once, providing the means for overcoming one of the major shortcomings of single track recording.

A valuable by-product of the D.C. System has been the provision of sound reinforcement (a loudspeaker system) to the recording courtroom through the use of ceiling speakers — the exact number depending upon the size of the courtroom — arranged in four zones: spectator, jury, attorney, and holding cell. Although the courtrooms have excellent acoustics, the fabric covered walls absorb so much sound that it is sometimes hard to hear in certain spots, and especially in the spectator section. The sound reinforcement system is unobtrusive, yet it enables one to listen from any point in the courtroom without strain. Since the system permits low volume-setting for each unit, one is never overwhelmed by the cumulative effect of the multiple speakers.

A feature called Automatic Gain Control (AGC) circuitry is utilized by the recording system. This circuitry regulates each microphone so that the "gain" of the mike automatically increases when a person speaks softly and decreases when he speaks loudly. The result is a very uniform volume of sound which reduces the possibility for distortion while actually clarifying and strengthening the testimony of soft-spoken witnesses. With AGC, when the optimum sound recording level for any particular courtroom is once determined, the level controls should not require adjustment again during normal operation. This feature helps make the central system practical, since, with forty or more eight-track machines running simultaneously, it would not be possible, constantly, to monitor the sound levels of all units manually. It is only by making each channel "self-regulatory," that one can even begin to consider a workable, multiple unit central system.

In the control room a computer console contains a group of indicators and switches which control the system and allow the console operators to determine, at a glance, whether or not each courtroom is recording properly. For example, there is an indicator which, when lit, shows that everything in the system pertaining to each specific courtroom and recording unit is connected and working. The machines are kept constantly "ready to go" and when the console operator receives a call from the courtroom clerk (on one of the special direct lines between courtroom and control room) asking that the tape be turned on or off, a flick of a console switch accomplishes the task for the appropriate recording unit.

The recording machines have safety devices of their own. For example, if you attempt to record over a previously recorded tape, a buzzer will sound and the machine will not record unless you take positive action. The system, incidentally, through playback heads located further along the tape than the recording head, monitors what has actually been recorded on tape, rather than the incoming sound. As a result, it is impossible to fail to record sound from a location accidentally since the system is constantly verifying that a signal is going onto the tape. As a further check, recorded material is monitored over the control room loudspeakers by the control room staff. This is done for each machine, at least once every ten minutes, in order to verify that the recording quality continues unmarred. (A set of numbered buttons — for each track and one "all" button — allows the console operator to isolate any channel or combination of channels for monitoring, without affecting the recording.)

Each courtroom has two digital tape counter displays (one for the clerk and one for the judge). At the beginning of the day, the counter on each display and the corresponding control room counter are set to zero ("0") and as recording begins the counters increment concurrently. In a sense, this is another safety feature since the clerk or the judge can ascertain at any time whether or not recording is taking place by noting whether the counter is lit and incrementing. More importantly, the counter provides the data necessary for the clerk to log the recorded activities of the day in a fashion which will ensure easy retrieval of specific recorded material.

Foremost among the extras in the system is a playback capability. Just as a court reporter reads back testimony when it is requested, so must the recording system be able to play back testimony as needed. When a judge or lawyer wants part, or all, of the testimony "read back", the clerk calls

the control room and provides, from the log, the approximate counter reading from which to start. The control room operator then rewinds the tape to the designated starting point and "plays" the required portion of testimony into the courtroom. When "playback" is finished, the operator returns the tape to the point at which recording was halted and switches the equipment back to the recording mode. An improvement, anticipated in the very near future, will allow the computer, when fed the starting location, to automatically switch the courtroom to "playback", rewind the tape to the indicated location and play into the courtroom over the courtroom's sound reinforcement system. When playback is complete, this modification will enable the computer to "fast forward" the tape to its previous recording position and begin recording once more. In essence, the entire playback process will soon be controlled through the control room's electronic console.

During a bench conference, when spectators and jury are to be excluded, a "mute" switch on the judge's microphone is activated by the judge to disconnect the room's sound reinforcement system while continuing to feed the recording to the control room system. The switch simultaneously activates a bench conference mike which helps pick up the comments of the lawyers facing the bench.

Staffing and Hours of Operation

The control room staff consists of two operator/technicians and one administrator. (It is estimated that when the system is completed for 44 courtrooms and at least 4 hearing rooms, there will be two additional operator/technicians.)

The system is activated at 8:00 a.m. (six days a week), or earlier if necessary, and closes when the last courtroom closes down for the day (normally at about 6:00 p.m.). One operator is stationed at the console, while the other monitors and duplicates tapes, repairs and cleans equipment, updates the office records or locates testimony for which transcription requests have been received. Every morning, each courtroom system is checked and "test run" and the console is also tested for proper operation.

It is necessary (for security purposes) for the courtroom clerks to pick up their microphones each morning and return them to the safety of the control room every night. As soon as the mikes have been connected in the courtroom, the control room is notified and a daily pre-test is run which checks the entire audio and recording circuit.

During the day, the control room staff constantly monitors the quality of the recordings. At the end of the day, as the microphones and daily log are brought to the control room from each courtroom, the applicable unit is taken out of the "ready" mode, the tape is rewound, labeled, and filed along with the clerk's log of that day's events.

Maintenance

At the end of each week, all machines are fully cleaned, tested, and checked for worn parts or wires. If any defective components are discovered, appropriate repair or replacement is undertaken by the technicians.

If a recording machine develops a problem during the day, its activity is quickly transferred to a spare machine (only eleven of every twelve units are in use at one time). The technicians are trained to repair the equipment and, since the design of the system is largely modular, isolation and correction of the problem is usually quite rapid.

The total delay for a transfer has proved to be less than a minute, illustrating one of the major advantages of centralization. When an individual tape unit in a courtroom fails, it causes significant interruption of the court proceedings. The inoperable machine has to be disconnected and removed and a spare must be brought in from some other location, causing considerable delay and commotion. With the central system, there is little

delay and virtually no interference or inconvenience for the trial participants.

Problems rarely occur with the equipment in the courtroom for it is simple gear and there isn't very much of it. There are eight microphones, a dozen or more ceiling speakers, two tape counter displays, an amplifier and a switcher. All of the equipment, except for the microphones, is located well out of harm's way or has a locking cover that prevents accidental damage.

Transcribing the Audio Product

As elsewhere, the transcription of courtroom testimony is not done as a matter of course in every case in the District of Columbia Courts. Rather, transcripts are prepared only when requested. When a request is received, the original tape is duplicated and an eight-track copy is then sent out for transcription. (Original tapes never leave the control room.) The transcription is done both in-house and by outside contractors. Currently, there is no backlog of requested audio transcript nor is one anticipated. All requests are usually satisfied within two weeks, and always within thirty days.

In the near future, if the Court System supports the concept, cassette copies of courtroom testimony will be provided to the requestor within minutes of the actual courtroom event.

The Human Factor

No matter how efficiently a system works in theory, it must have the support and cooperation of the people for whom it exists if it is to function efficiently in practice.

The response and cooperation of the courtroom clerks has been outstanding. This support is crucial, for the clerk provides the link between courtroom action and the control room and, even more importantly, the clerk's log is the key to the "table of contents" for every tape. The courtroom clerks have performed admirably in this area. Their contact with the control room has been precise and punctual and their logs have been consistently reliable.

Problems

There are, of course, problems, but thankfully they are minor ones. One problem is that the Court has yet to find a "consistently clean" brand of tape. (An occasional dirty tape can require more frequent wiping of the machine capstans than is desirable.) This problem does not mar the recording, but does require time and attention of the operators.

A second problem has been finding the optimal microphone placement in the courtrooms. Although our recordings are of excellent quality, occasionally, a voice will be less distinct than it might be because the microphone has been shifted to an ineffective position (for example, pointing toward a wall or toward the floor). The freedom of movement that is permitted in our courtrooms can be accommodated with proper microphone placement, but we have yet to find a way to eliminate "impromptu" adjustments which allow the voices to move out of the wide range of our multi-directional microphones.

The currently used eight-track, reel-to-reel tapes can run continuously for three hours. Occasionally, a judge will sit for longer than that without taking a break. When this happens, the courtroom is notified when ten minutes of tape remain, and, at the first convenient moment, the clerk interrupts the proceedings for the quick tape change in the control room which takes ten to fifteen seconds.

It has recently become possible to produce high quality recording at half the normal speed as a result of the development of more sensitive tape.

This means that with the same length of tape that is used today, our machines will soon provide up to six hours of continuous recording time (which is, incidentally, much longer than any continuous court session).

Costs

The use of central recording systems is cost-effective only in multi-judge court facilities. Although there is not yet a reliable rule of thumb for the minimum size necessary to be cost effective, it appears that to enjoy the advantages of a central system there should be at least five courtrooms on the same system. Since direct cabling is required, the courtrooms should be under a single roof. This may, however, prove not to be a real problem, for the new glass-fiber phone lines are capable of transmitting information for which special audio control cables have been required in the past. This technological breakthrough may soon make it possible to provide economical central recording for courtrooms many miles apart in a "regional" or "state central recording" facility.

In summary, there is in operation today, at the D.C. Superior Court, a reasonably inexpensive central audio recording system which holds promise for revolutionary change in the court recording practices of urban area courts. It is efficient and economical and provides a quality final product. Most importantly - it works.

² District of Columbia Courthouse Central Recording Costs through Fiscal Year 1981

<u>Original Installation:</u>	
Cables, Switches, etc.	\$ 58,621
Conduit, Floor Boxes, etc.	47,342
Miscellaneous Costs	8,417
	<u>\$114,380</u>
Equipment (11 Fully Equipped locations and one spare recorder)	<u>143,810</u>
	\$258,190
<u>Additional Equipment:</u>	
Expansion of Central Facility - nine fully equipped courtroom locations with one Spare Recorder - work to be fully completed September 30, 1981 (Includes Computer Improvements)	<u>\$126,473</u>
Total Cost (Twenty locations and two spares)	<u>\$384,663*</u>

*It is estimated that, subject to the inflationary spiral, each additional courtroom will cost \$10 - \$12,000.

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An Assessment of Computer-Aided Transcription — The Philadelphia Experiment*



Larry P. Polansky
Chief Deputy Court Administrator
Common Pleas Court of Philadelphia
and
J. Denis Moran
Deputy Court Administrator
Jerry R. Tollar
National Center for State Courts

INTRODUCTION

The Philadelphia Court of Common Pleas, under the supervision of President Judge Edward J. Bradley and Court Administrator Judge David N. Savitt, is operating a court-controlled computer-aided transcription service center. The center is a pilot program originated by the National Center for State Courts as a major component of its Computer-Aided Transcription Project. This joint effort of the Philadelphia Court and the National Center is funded through the National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration and supplemented by upwards of \$75,000 of match provided over the program life by the Philadelphia Court.

The Philadelphia Court of Common Pleas, like many other courts, is encountering increased problems in the task of providing court reporting services. These problems are manifested by difficulties in obtaining a sufficient number of qualified court reporters, transcript delays, inefficient transcript production (frequently aggravated by inefficient or non-existent production standards), and rapidly rising personnel and supply costs. In an effort to relieve these problems, the Philadelphia Court is striving to improve current court

*Originally published in Proceedings of the Third International Symposium on Criminal Justice Information and Statistics Systems, SEARCH Group, Inc., 1976.

reporting services and is looking to modern electronic technologies such as audio recording, voice-writing, videotape recording, and computer-aided transcription. The latter technology, computer-aided transcription (hereinafter abbreviated to CAT) is the subject of this paper.¹

Computer-aided transcription is an attempt to combine the best of two worlds — the stenotype court reporter and the computer. The trained stenotype court reporter does what he/she does best — namely, takes down the spoken word in stenotype form; the computer does what it does best — rapidly processing input data (the stenotype notes and converting it into English prose). Computer-aided transcription (CAT) is intended to *enhance* the utilization of stenotype court reporters by reducing the reporter's interaction with the transcript translating and typing functions. By relieving the court reporter of some of this traditional manual operation, CAT will speed up transcript preparation, reduce the time spent by court reporters in transcript preparation, and potentially help the court to more efficiently use available court reporting resources.

Computer-aided transcription is a reality and its technical feasibility can no longer be questioned. The purpose of the Philadelphia pilot program and the National Center's CAT project is to determine: (1) whether CAT is economically feasible for courts; (2) what procedural reforms (if any) are needed when implementing a CAT service; and (3) what the production rates and capabilities of CAT really are.

THE PHILADELPHIA COURT-OPERATED CAT SERVICE CENTER

The Philadelphia court-operated CAT service center is the largest court-operated attempt to date. The service center currently supports 15 court reporters; however, service will be expanded to support 25 to 30 court reporters before program completion. More than 150,000 pages can be transcribed each year with the current equipment configuration. Expansion

1. An extensive discussion of this technology and approaches to compare CAT with traditional transcription methods is available in "Evaluation Guidebook to Computer-Aided Transcription" by J. Michael Greenwood and Jerry R. Tollar, National Center for State Courts (\$3.00).

of that configuration is simple and can be accomplished quickly.

The Philadelphia CAT system is entirely operated by court personnel. Unlike all other CAT projects, no controls of any kind reside in the hands of the vendor. The CAT system utilizes the Court's IBM 370/145 as the host translation computer (instead of a service bureau of CAT vendor's facilities). Likewise, the minicomputer subsystem used for text-editing, printing and other functions is located in a court facility manned by court personnel.

EQUIPMENT AND SERVICES ACQUIRED FOR THE PHILADELPHIA COURT-CONTROLLED CAT SERVICE CENTER

After the selection of the Philadelphia Court of Common Pleas as the demonstration site for a major court-operated computer-aided transcription service center, the National Center and the Philadelphia Court issued an RFP, evaluated proposals in response to the RFP, selected the CAT vendor, and negotiated a final contract. The successful vendor was Stenocomp, incorporated of Vienna, Virginia.

Equipment and services which were required for the Philadelphia program (and which a court-operated CAT service center should obtain) include the following:

A. Modified stenotype devices: For the Philadelphia program, modified stenotype machines had to be obtained. These machines are equipped with an electronic cartridge or cassette recording device to record the notes on magnetic tape. The machine will also simultaneously print the notes on the more familiar paper pads.

B. Train court reporters to become computer-compatible: Training was provided for Philadelphia court reporters who were selected for the pilot program. For a court reporter to become "computer-compatible", adjustments must be made; the stenotype court reporter must adapt his style to more rigid specifications than he has been normally accustomed and individualized sub-dictionaries must be created for each court reporter. This give-and-take process includes:

1) *Analyzing the stenotypist's writing style and technique:* Analysis may be obtained from actual notes, standard dictation tests, and questionnaires regarding writing techniques. It will be found that some stenotype reporters are not sufficiently computer-compatible.

2) *Developing and adding to the stenotype court reporter's individualized sub-dictionary:* This individualized sub-dictionary is created to accommodate the style differences of the individual reporter. The computer resorts to a "universal" dictionary when the sub-dictionary does not contain the entry. Both dictionary types are updated. Updating the individual sub-dictionaries of court reporters is part of the ongoing "lexicographic" support offered by vendors.

3) *Assisting court reporters in selecting suitable style changes:* In order to resolve or reduce computer translation conflicts, some court reporters may need to modify portions of their note-taking style. This task is done in consultation with the vendor's stenotype experts and is a second stage of the ongoing lexicographic support offered by vendors.

4) *Training the court reporter in the daily system flow:* The court reporter must know the following procedures: how to use the modified stenotype machine, how to submit a job sheet and cartridge or cassette for translation, how to mark his transcript for text-editing, and normal procedures for the routine pick-up and ordering of first-run and final transcripts.

C. Installing the translation software on the main-frame computer: The powerful translation software of Stenocomp was installed on the Philadelphia Court's IBM 370/145. In most cases, input to the translation program (from the sub-system) and the output are accomplished via magnetic tape, although a communications link was also evaluated and installed free of charge by the vendor. The extensive software, universal and sub-dictionaries reside on disc.

D. Installing the text-editing and subsystem software: Since a first-run transcript is not in perfect form (as will be discussed later), a method of text-editing must be provided. In the case of the Philadelphia CAT system, a separate minicomputer subsystem was installed in the court facilities. The subsystem contains a specialized text-editing program and a high-level command language to perform a number of other system tasks, such as data transfers and printing transcripts. The minicomputer subsystem consists mainly of these components:

- 1) Minicomputer (controller)
- 2) Disc storage space
- 3) Cartridge reader (input of magnetic notes)

- 4) CRT terminals (text-editing)
- 5) Line printer (transcript printing)
- 6) Tape drive (as a communication link to the translation computer)

E. Training subsystem operators and text-editors: For the Philadelphia CAT service center, the Court hired Cathode Ray Tube (CRT) operators to perform the diverse tasks of service center management, subsystem operations and diagnosis, and transcript text-editing. Stenocomp trained the personnel for the court.

NORMAL PROCEDURES OF THE PHILADELPHIA CAT SYSTEM

The logistics of managing and operating a full-fledged court-operated CAT service center are intricate. Tracking a hypothetical transcript through the machinations of the Philadelphia Court's CAT system will illustrate the most salient points of a CAT system:

A. Stenotype note-taking -- the starting point. At 10 o'clock on a Monday morning in a Philadelphia courtroom, the court convenes to hear a judge's final disposition on a short, but hotly contested case. The court reporter, a stenotypist who employs the Philadelphia CAT system, slips his fourth magnetic cartridge (the previous three were completed Friday) into his modified stenotype machine, and also inserts his standard pad of paper for printing.

Before the court is brought to order, the court reporter briefly advances the tape and stenotypes his usual introduction and identification of participants. To an observer, there is no difference perceived in the court reporter's behavior or equipment. He changes cartridges when he changes paper and only occasionally employs extra stroking which designates to the computer system that he wishes to change his printing format. The court reporter receives a transcript request at the conclusion of the case.

B. Job submission to the CAT service center. Using less than a half-hour before lunch, the court reporter prepares his "job sheet". In addition to completing a form to identify his job, he lists the spellings of any proper names and titles, abbreviations, or special terminology which he used but can't expect to find in any of the standard dictionaries. His magnetic cartridges and "job" are submitted to the CAT service center during the early afternoon, but he keeps his paper notes.

C. Input of magnetic tapes. During the afternoon, the Philadelphia CAT service center staff pre-processes all of the day's jobs (magnetic tapes containing stenotype notes). The subsystem's cartridge reader reads the magnetic cartridges of each job upon supervisor command. At a CRT terminal, identifying information and the special spellings with note forms are entered from the "job sheet". The "job" is thus "pre-processed", or "packaged" together and transferred onto the magnetic tape from the minicomputer subsystem. When enough jobs are transferred onto the tape, it is dismantled and sent to the host translation computer, an IBM 370/145. The magnetic cartridges are temporarily held until the first-run transcript is viewed and proper functioning of the steps up to that point has been assured.

(NOTE: Although not selected by the Philadelphia Court for a number of reasons (with dollars savings resulting from the use of the already existing court computer system being the most important), a feasible alternative to a tape drive is to retain the notes on subsystem disc storage and to transmit them to the translation computer via a communication link.)

D. First-run translation. Generally, translation is performed overnight on the Court's IBM 370/145. "Daily copy" is feasible, and the service is available to Philadelphia's Court Reporters; however, it is normally not required and generally unnecessary. Experiments have been run and have proven to be successful in that all of the day's copy for a trial running from 9 a.m. to 4:30 p.m. was available in trial-edited form by 9:30 p.m. on the trial day. (Daily copy is normally satisfied by providing final typed transcripts by 9:00 a.m. of the following day.)

With the tape containing the court reporter's jobs as input, the Stenocomp translation software translates the notes into English prose (usually with 95-98 per cent accuracy; depending upon the input quality and complexity of proceedings). The job sheet information, the court reporter's individualized subdictionary, and the "universal" dictionary are applied to the reporter's notes. The first-run translation of the notes is then transferred onto a magnetic tape for transfer back to the text-editing subsystem.

(NOTE: A communications link is also feasible for this transfer.)

E. First-run transcript printing. On Tuesday morning, when the magnetic tape of translated jobs is returned to the Philadelphia CAT service center, the tape is mounted on the minicomputer subsystem's

tape drive and transferred to disc. The first-run transcripts are then printed on the minicomputer subsystem's line printer and held for pick-up (and proofreading/editing) by the court reporter.

F. Proofreading/editing by the court reporter. Sometime that afternoon the court reporter picks up his first-run transcript. In his spare time during the afternoon, that night or the next morning, the reporter proofreads the first-run transcript (about 95-98% accurate English) and pencils in text corrections according to the correction formats taught during his computer-compatibility training. He then returns the corrected first-run transcript to the Philadelphia Court's CAT service center (mid-day Wednesday) and orders the number of final transcripts he desires.

(NOTE: The Philadelphia Court has set policy as to the number of copies provided for the fee being charged to the reporters.)

G. CRT text-editing. With the corrected first-run transcript for reference, a trained text-editor of the Philadelphia CAT service center uses his CRT and the special text-editing program to correct the first-run text of the subsystem. Each editor can edit up to 250 pages per day. In our hypothetical case, the first-run transcript (corrections submitted mid-day Wednesday) is amended before the end of the day.

H. Final transcript production. When the service center begins work Thursday morning, the final transcript is printed on the subsystem's line printer and held for the court reporter. Only four days have passed between transcript ordering and availability of the final transcript. The court reporter's time spent in transcription has been minimized. He had only to prepare a job sheet and perform editing of the 95-98% accurate first-run transcript. And his final transcript had no misspelled words or erasures.

CAT SERVICES AND EQUIPMENT OPTIONS

Potential users of computer-aided transcription discover that an assortment of CAT services and equipment options are available. The major differences in services and equipment relate to the final three procedures, namely first-run translation, CRT text-editing and final transcript production.

A. CAT Services

There are three functional divisions of CAT services: User-controlled services, vendor-controlled services, and hybrid CAT systems/services.

1) User-controlled CAT services: The Philadelphia Court-operated CAT system is the only user-controlled CAT service to date. In a user-controlled system, the services are performed on user-owned or leased systems and the user directly administers the entire production. The CAT vendor provides the software programs, initial set-up, personnel training, and a number of lexicographic services, but has no direct control over the system. To the best of our knowledge, only Stenocomp will currently install a user-controlled CAT system.

2) Vendor-controlled CAT services: Vendor-controlled CAT services are operated and controlled by a vendor. Stentran Systems of Virginia is a good example of a vendor-controlled CAT service. In this service, the magnetic notes are sent by mail or transmitted by communication lines to the Stentran facility. There, they are translated, CRT text-edited (without court reporter proofread/editing), and the final transcript is mailed to the court reporter. This basic "processing service" has been provided to a federal CAT project and one in Cincinnati. The most frequent objection to this type of service is that the final transcript is not perfect and that the court reporter should, therefore, be permitted to perform a proofread/edit before CRT text-editing. In the past, Stentran has also been responsive to RFP's for vendor-controlled CAT services, but, to the best of our knowledge, has none installed at this date.

3) Hybrid CAT systems/services: In hybrid CAT services, translation is performed at the CAT vendor facilities but CRT text-editing and transcript production are performed at a user-controlled service center. Stenocomp provides this type of service to a service center in Miami. The magnetic notes are transmitted to Stenocomp for translation, and the first-run translation is transmitted to a minicomputer subsystem similar to that of the Philadelphia CAT service center. The minicomputer subsystem performs the CRT text-editing, printing, and a number of other functions.

Stenographic Machines of Skokie, Illinois also will provide hybrid CAT services. Stenographic Machines provides translation, but usually suggests that the user acquire his own text-editing software and equipment, such as the IBM 2740 terminal with a text-editing package. Some courts may find such a text-editing package to be insufficient in comparison to the Stentran or Stenocomp text-editing software and system configuration.

B. CAT Equipment Options: A number of developments are being made in the CAT market area. "Stand-alone" systems are under development. Such systems not only combine the host translation computer and the minicomputer subsystem into one unit (usually a minicomputer), but eliminate the need for communications links between them. Transcripts, Inc. of Sunnyvale, California has opted for this approach, but has not yet reached the open market. Xerox, Inc. was proceeding along the same lines, but decided recently to drop out of the competition.

(NOTE: IBM gave up on CAT in the sixties. However, this does not mean a system is not viable.)

A regional CAT system concept has been considered in a number of states. In such a system, there would be a centralized host translation computer and localized minicomputer subsystem for local service centers. Several courts in nearby counties are evaluating the Philadelphia Court-operated CAT service center with thoughts of utilizing the Philadelphia Center as a regional CAT system. It is hoped that this concept will be found to be a viable alternative in Pennsylvania and other states.

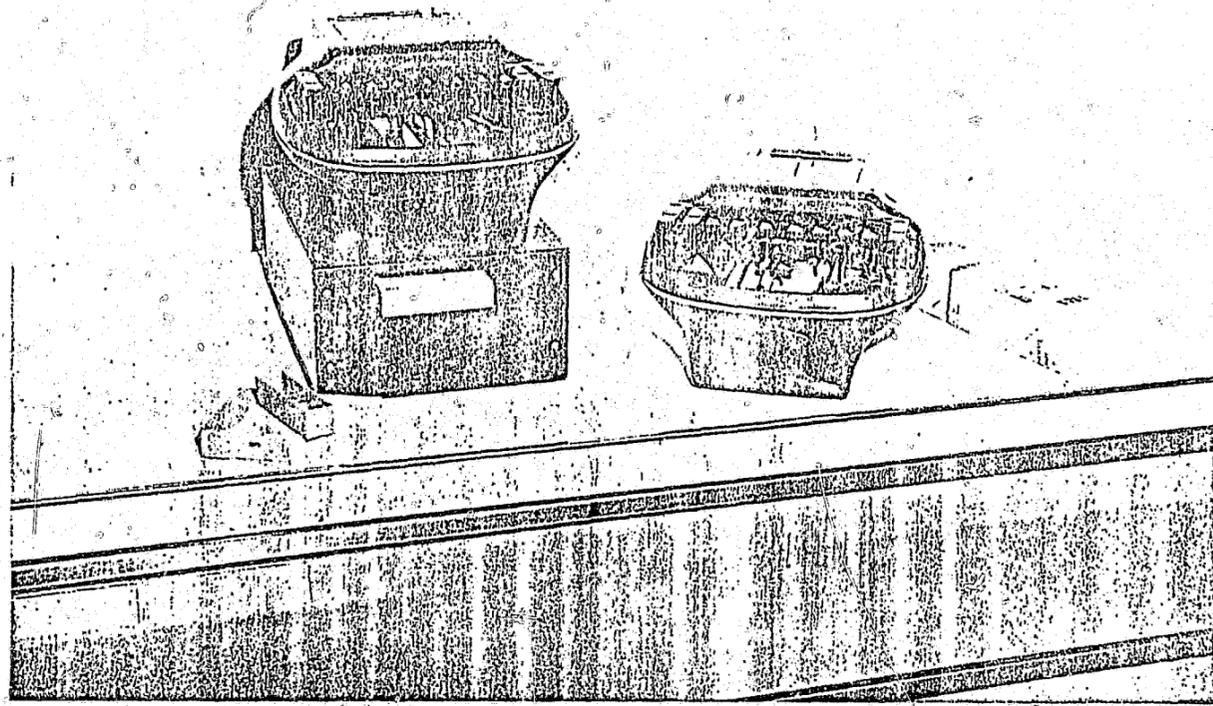
CONCLUSION

The Philadelphia Court of Common Pleas and National Center for State Courts believe that this pilot program will be the prototype of many successful metropolitan and regional CAT service centers. The Philadelphia Court and the National Center hope to be able to conclude the following:

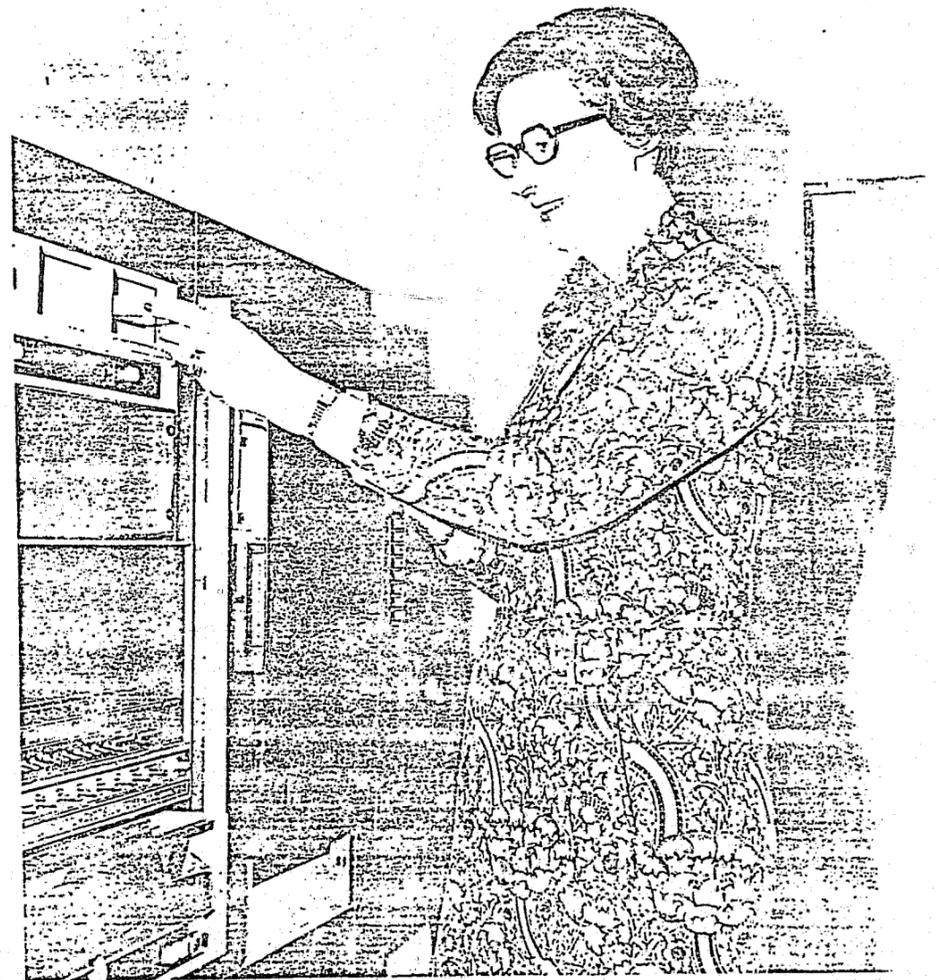
A. That CAT is economically feasible. Unless it is feasible to cover payments for the services of the computer and subsystem staff from payments of the court reporters, out of their copy fees, the project will be discontinued. There is no desire to make the operation profitable to the Court, but it *must* be self-sustaining.

B. That transcription time can be reduced from 4-6 weeks to a week or less by CAT.

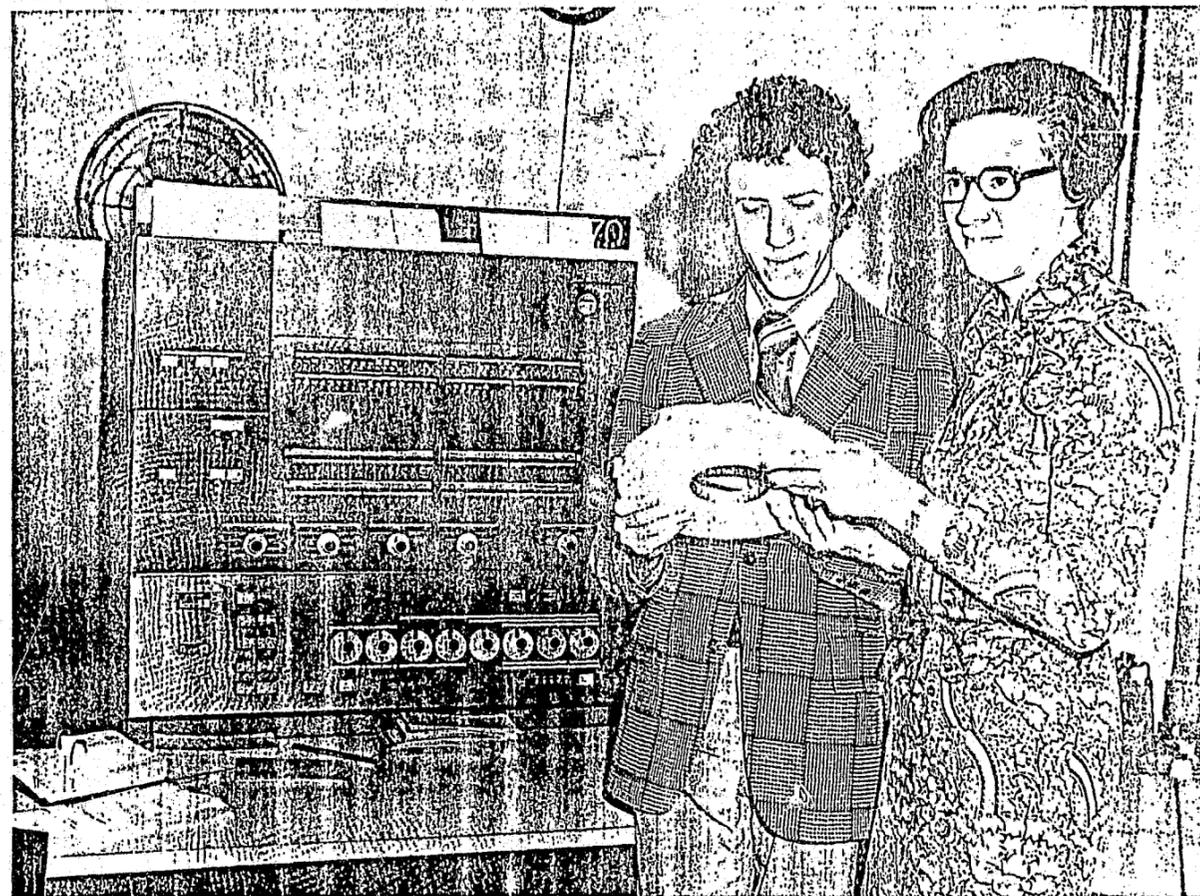
C. That CAT will provide more efficient and effective management of transcript production, permitting a higher utilization of court reporters by reducing their time in the tedious task of transcribing notes.



1. On the right is a standard machine with the standard steno machine paper pad. On the left is a device which has been modified to accept and record on a magnetic tape cartridge.



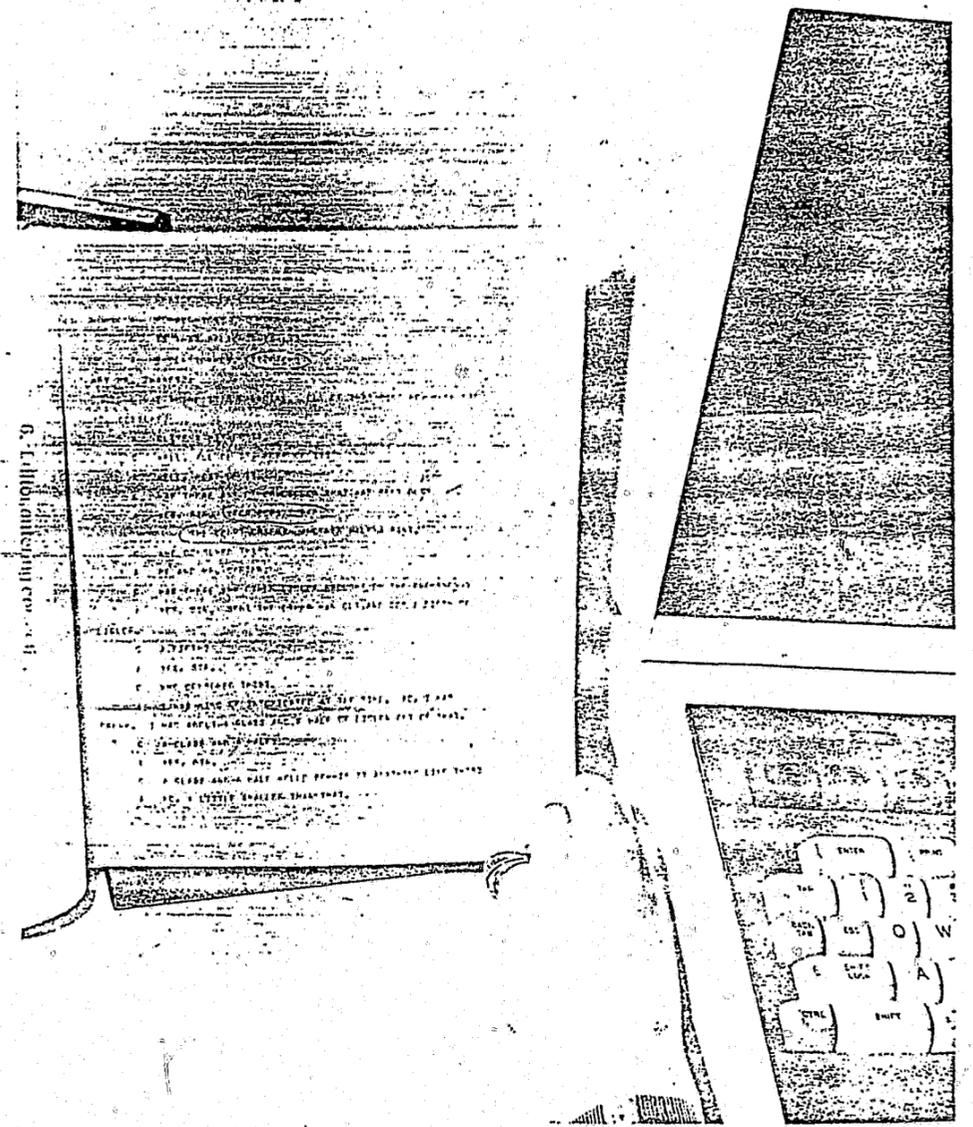
2. Feeding the magnetic cassette to the mini-computer.



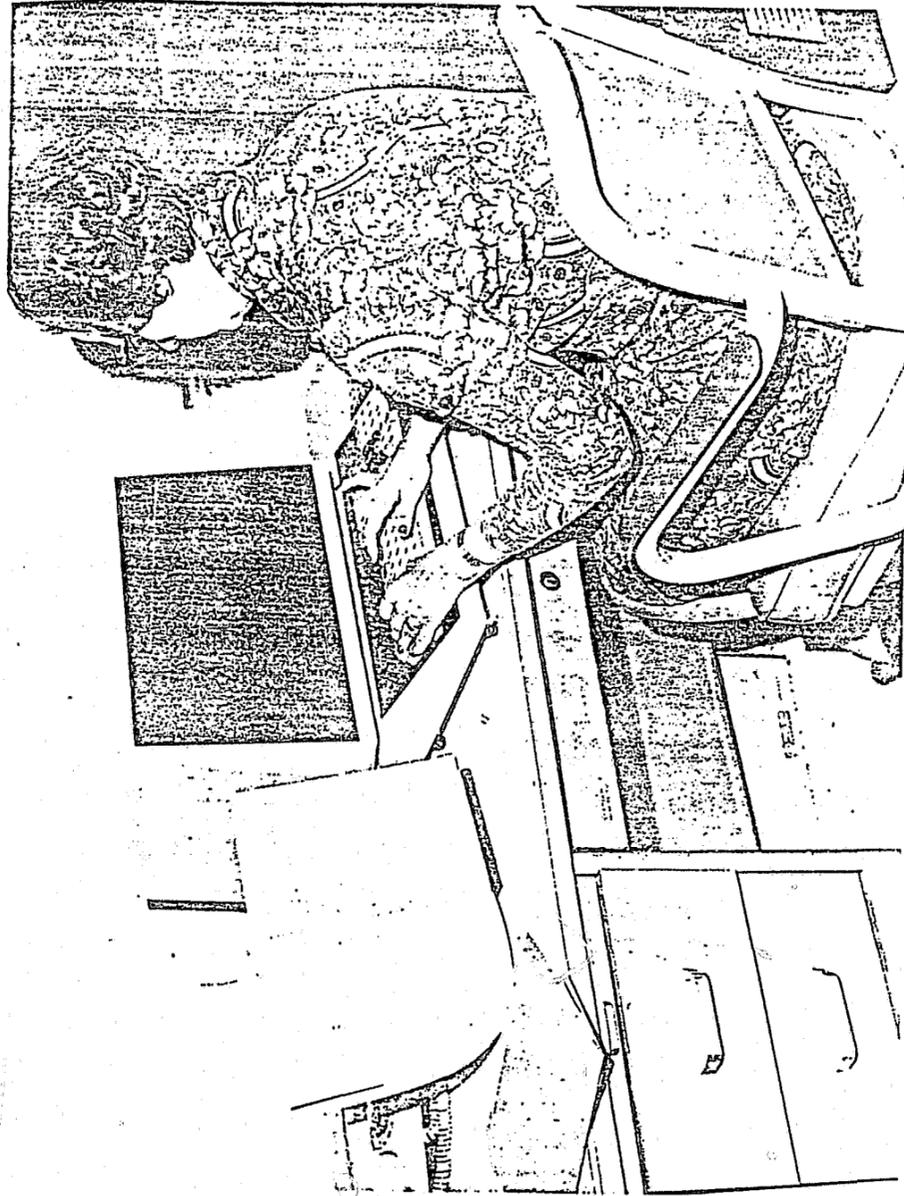
3. Data transferred to magnetic tape is fed to the Court's IBM 370/145 computer.



4. Reporter reviewing "first-run" copy against his stenotype notes.



5. Corrected "first-run" copy.



6. Editor entering corrections.



7. Reporter with his final copy.

Senator DOLE. Thank you.
Judge Cahoon?

STATEMENT OF DAVID L. CAHOON, ADMINISTRATIVE JUDGE,
SIXTH JUDICIAL CIRCUIT, MONTGOMERY COUNTY, MD.

Judge CAHOON. Mr. Chairman, I am David Cahoon, an associate judge of the Sixth Judicial Circuit in Maryland, sitting in Montgomery County. I also serve as the shop foreman with the title of administrative judge of that court. I am here at your request and your disposal and I hope that you will treat me gently.

I was busy with my own whittling last week and your staff asked if I would come here and testify as to what we were doing in our court on this problem. Out of respect for this institution, I agreed to come.

I came in the building today and I saw all these stacks of prepared statements and I realized somebody was in a cat and dog fight. I just want you to understand it is not mine. What problems other institutions may have, we do not have those, or I hope we will not have them because we are on the way to solving them.

I have prepared a written statement which is in the record. I want to point out a few highlights of it.

We are about to go into a new courthouse facility with 15 finished courtrooms. They have the same configurations as those in the Superior Court of the District of Columbia. We are under contract for the manufacture and installation of a centrally controlled eight-track electronic documentation system.

We have come to the conclusion that we should do that. We have convinced the county government, who has to tax the citizens for it, that it is an important and significant element in our efforts to reduce the delay and cost of litigation.

Our examination revealed that in terms of the reduction in the cost and time for transcripts to litigants, together with improvements in the reliability and durability of recording, the benefits could not be ignored.

As I have indicated in my statement, for an initial construction and installation outlay of approximately \$300,000, we expect to reduce our current annual personnel and material expenditures of over \$450,000 to \$135,000. Simply stated, we expect to recover the cost of the equipment in the first year of its full operation.

Additionally, we believe user cost for transcripts can be reduced by at least 50 percent with a potential reduction in production time from 60 days or more to 10 days.

As I have described the system in my statement, all recording will be performed through the medium of multitrack electronic tape on centrally located and monitored tape decks connected by cable microphones and telephones to the various courtrooms.

The transcription function remains, but as the tape is the medium of recordation, the typed transcript can be produced at lower cost and in less time through commercial transcriber services competitively awarded. In other words, we expect to go to the private sector for the transcription services. We are basing that on the experience they have demonstrated in the Superior Court. In conversations with our present reporter personnel, we have encour-

aged them to organize their own industries to bid on that operation and join it.

I have described how we got there, what we are putting in, and what we hope to get out of it in my statement. I have a high degree of confidence that the full implementation of the system will achieve these goals.

I want to emphasize that an opportunity for the optimum benefits from this electronic documentation system flows from the acoustical features designed into our new courtrooms. I am in no position to judge the universality of the application of these, but I have enough information about them to believe that the inherent characteristics of the system would seem to present significant productivity gains in almost any circumstance.

Thank you, Mr. Chairman.

Senator DOLE. Thank you.

[The prepared statement of Judge Cahoon follows:]

PREPARED STATEMENT OF JUDGE DAVID L. CAHOON

Mr. Chairman and Members of the Subcommittee

I appear pursuant to request of the Subcommittee Chairman which was extended by Virginia A. Goddard, Counsel of the Subcommittee staff. The request was that I testify concerning the installation of an electronic recording system for use in the court in which I act as Administrative Judge.

By way of introduction, this court is a State trial court of general jurisdiction in the State of Maryland, its county-wide jurisdiction extending to all matter of law, equity, criminal and probate. As a consequence of needs perceived some eighteen (18) years ago, we anticipate moving into a newly constructed courthouse late this Summer or early in the Fall. The completed facility will have fifteen (15) courtrooms for the conduct of trials and related proceedings. Pursuant to appropriation sought and obtained from the County Government, we are presently under contract for the manufacture and installation of a centrally controlled, eight-track electronic documentation system for the purpose of electronically recording daily court proceedings. The decision to proceed with this undertaking results from the fundamental thrust of our administrative policy to reduce delay in, and the cost of, litigation. Our decision was arrived at after examination of existing and alternative systems for recording and transcribing our proceedings. The examination revealed such substantial reduction in taxpayer expenditures for services and cost and time for transcripts to litigants, together with improvements in the reliability and durability of recording that the benefits could not be ignored.

Our examination included review of periodicals and source material, examination of other system configurations (computer aided transcription, voice writing, audio visual recording, various decentralized tape and recording devices), review of experiences of other court systems, consultation with field experts, and inspection of the operations of a similar system in a court who's courtrooms have the same configuration and acoustical features as our own new ones. It was concluded that with an initial construction and installation outlay of approximately Three Hundred Thousand Dollars (\$300,000) we could reduce our current annual personnel and materiel expenditures of over Four Hundred and Fifty Thousand Dollars (\$450,000) to an annual outlay of One Hundred and Thirty Five Thousand Dollars (\$135,000). Additionally, user costs for transcripts could be reduced by at least 50% with a potential reduction in production time from sixty (60) days or more to ten (10) days.

Such results are not surprising when viewed in the context of the present labor intensive manual means of recordation. The leaping growth in the pace of litigation, and steeply rising personnel costs impel a search for improved productivity. We have not been alone in this search and most of the alternatives covered have centered upon electronic recordation. This mode of recordation

seems to have suffered many halting starts but it would appear that technological advances of the last decade have produced a central, automated electronic system concept which completely removes the recordation function from the courtroom itself, allows production of recordings of greater accuracy at lower cost and less time, while affording the court total control over its own work product.

The central system concept completely supplants the court reporters in the recording function: all recording will be performed through the medium of multi-track electronic tape on centrally located and monitored tape decks, connected by cable microphones and telephone to the various courtrooms. This method is not only more accurate, but also allows for the immediate duplication of reel-to-reel recordings on tape cassettes, providing almost instant copy and recovery of costs by sales. The transcription function remains, but as tape is the medium for recordation, the typed transcript can be produced at lower cost and in less time through commercial transcriber services, competitively awarded.

The system itself encompasses five (5) main components: the courtroom subsystem, consisting of microphones, amplifiers, sound reinforcers and digital monitoring units for the judge and clerk; the control room subsystem, the heart of the concept, encompassing the computerized main control console, the master intercom console, the modified rack-mounted tape decks and a tape storage facility; a maintenance and test station consisting of a complete recording module and spare recorder with necessary tools, wiring, etc.; the main cable assemblies, connecting each courtroom with the control room, and finally, a duplication and transcribing station consisting of two (2) high speed duplicators for reel-to-reel and reel-to-cassette reproductions and one transcribing machine with headset.

I wish to emphasize that this is a multi-track electronic recording method where participants are assigned discrete tracks on the tape. This recording method preserves intonation and nuance, and yields a complete, revealing record of the court proceedings. The centralization concept provides unique advantages not readily available to locally controlled courtroom recording systems. The machines are monitored, cleaned, tested, and repaired on a regular basis by personnel trained solely for that purpose. Tape and maintenance logs are kept consistently and accurately. Recorded tapes are stored properly in a secure place and are not allowed to leave the custody of the court. If a machine should fail while court is in session, a spare unit is near by and may be quickly substituted with little or no intrusion on the court.

I shall attempt a brief description of the equipment and its operation.

The heart of the central recording system is the control room. This room contains the main control console, the rack-mounted, eight-track tape recorder, high speed duplication equipment (both reel-to-reel and reel-to-cassette), two (2) transcribing stations, a maintenance/test station, metal storage cabinets for tape, and personnel stations.

Each courtroom is connected to the control room by two (2) multi-conductor cables, one dedicated to audio functions, and the other, to control/display functions.

In the central room a group of modules contained in the console control provides the system with the following capabilities:

Control of each tape recorder

Off-tape monitoring capability for the operator in the control room

Introduction of a noise signal to the courtroom loud-speaker for a dynamic test of system

Electronic switching for console functions

Playback capability for up to four (4) courtrooms simultaneously

Automatic checking system to insure that the off-tape signal compares favorably with the input signal within predetermined specified limits; if the comparison circuits note a significant difference, the operator will be alerted by an audible alarm and a panel indicator

Direct voice contact between the courtroom and the console operator.

Control room equipment not located in the console includes: The eight-track rack-mounted tape recorders; a master intercom console to provide direct contact between the courtroom clerk and the control room operator; high speed reel-to-reel duplicator, a high speed, reel-to-cassette duplicator; and a test maintenance station.

Equipment located in each of the fully equipped courtrooms include: A microphone preamplifier/automatic switcher which provides amplification of the microphone signals to a line level for noise free transmission to the tape recorders in the control room, and a controlled output to the sound reinforcement amplifier; a sound reinforcement amplifier; a remote control/tape counter display, to provide the display of the tape counter numbers; a remote counter display located on the judge's bench; a control room intercom substation, which provides direct contact between the courtroom and the control room; microphone/stand assemblies located near the judge, clerk, witness, each attorney, one in front of the judge's bench and jury area, and on both sides of the main bench complex for bench conference; ceiling-mounted loudspeaker assemblies separated into five (5) zones of coverage, spectator, attorney, jury, judge, and holding cell.

It is anticipated that the system will normally be activated and ready for testing each morning at least an hour before the first court goes into session. The system will be kept active until the last courtroom is recessed for the day. There will be pre-session tests of the equipment. It should be stressed that the system is designed to be operated by a minimum number of persons. After

pre-sessions test each courtroom is placed on a "record-hold" mode. Under normal operation each active courtroom will be sequentially monitored on a preset period of approximately every thirty seconds. The normal communications between a courtroom and a control room will be by direct line intercom with the courtroom clerk. If an equipment problem should occur during operation the court clerk is notified and the courtroom system is then quickly transferred to another recording channel. Personnel will be monitoring the console and the off tape signals. Additional personnel will be duplicating tapes, making tests, repairs, and cleaning the equipment. The contemplated personnel complement will be three (3) persons, supplanting a reporter complement of twelve (12).

I have a high degree of confidence that full implementation of this system will achieve the goals we have set. However, I wish to emphasize that an opportunity for the optimum benefits from this electronic documentation system flows from the acoustical features designed into our new courtrooms.

I am in no position to judge the entire scope of benefits to be found in other physical surroundings, nevertheless, the inherent characteristics of the system would seem to present significant productivity gains in most any circumstances.

Mr. Chairman, it is my hope that this conforms to your request. If you, any members of the Subcommittee or its staff desire additional information or clarification I, or our very able Clerk-Court Administrator, Howard M. Smith will do our best to meet the requests.

Senator DOLE. Mr. Boyko?

STATEMENT OF EDGAR PAUL BOYKO, MILLER, BOYKO & BELL, SAN DIEGO, CALIF., AND BOYKO & DAVIS, ANCHORAGE, ALASKA

Mr. BOYKO. Mr. Chairman, members of the subcommittee, and staff, I learned this morning that after a lengthy night session, the Senate went into recess. I think we owe all of you a debt of gratitude for staying in this hot city beyond your assigned hours and days to listen to us. We are grateful for this opportunity.

You have my written statement. I am not going to repeat myself unless questions asked elicit some necessary repetition.

ELECTRONIC COURT REPORTING

I am here to address a relatively narrow area of your inquiry. That is the one which seems to have been precipitated by the General Accounting Office staff recommendation that starts off, in my humble estimation, with some very cogent observations and then jumps to a totally unwarranted conclusion, which I read to be that this committee should now, in effect, force the Federal courts to fire all their live reporters and supplant them with tape recorders of various degrees of sophistication.

I am here because I have had 20 years experience in the only jurisdiction which, in my humble estimation, has been foolhardy enough to be lured into this kind of a situation. My experience, to

be polite, has been very mixed. I want to elaborate on that a little bit.

I am also here because I am a trial lawyer. Along with the trial judges and the in-court personnel, we are the people on the firing line. Without intending any kind of criticism of anybody who planned this program, I was rather surprised when I did a little experiment from the witness list. I figured out that we had appearing before the committee today a total of 13 witnesses of whom 2 were trial judges and 1 was a trial lawyer. The trial lawyer darned near did not make it, except apparently somebody insisted there be a token trial lawyer at this hearing. Here I am.

Yet we are the people who live with this system day in and day out. I have been a trial lawyer for 35 years. As I said, I spent 20 of those in Alaska under the system which the young gentleman on my left has so eloquently defended.

However, it is rather significant to note that when the Alaska court system decided to send an advocate to defend its record or to proselytize, they chose an electronic engineer, not a lawyer, not a judge, not anybody who is in the courtrooms. I have never seen Mr. Stechman in a courtroom. I venture to say he is only there when the equipment needs fixing, which is frequently.

Having said that, I do not want to be understood as meaning that there is no place for electronic audio equipment in the courtroom. I listened with great interest to what Mr. Polansky had to say. I noticed with my hopeful reasonably trained trial lawyer's ear that he said he uses them in high volume, low transcript operations. We all know these mass arrangements and more or less rote procedures are a little bit like the Tibetan monks who put their prayers on these rattles so they do not have to do them verbally. Those kinds of things might very well be done by electronic equipment.

I think Judge Griesa, who testified before and whom I have never had the honor of meeting, summed it all up when he said that to accomplish the result of what we are trying to do in the courts, you need the intelligence and the dedication and the judgment of a human being. There is no machine designed—I do not care what the state-of-the-art is claimed for it—that can do that.

If I had an hour, I could go on citing chapter and verse of the many situations in which the trained, skilled, dedicated, ethical court reporter's judgment will save the day. The court reporter is an integral part of the justice team that brings about what we are trying to do in the courts, the team consisting of the judge, the trial lawyers, the clerk, and the court reporter. If you take one of those out, you have tinkered with the efficiency of the totality. There is no machine made, no matter how smart, that can take that place.

As a backup, I think it is very valuable because humans do make errors. There are such things as fatigue and other problems. It is nice to have something to go back to if you have a dispute as to what was said and to look at that. However, replace them? Never.

THE ALASKAN EXPERIENCE

I see the red light on, but I do not want to conclude without stating that if you took a poll among the experienced trial lawyers

and trial judges who have lived with the Alaskan system, you would find that the vast majority are dissatisfied with the quality of the record that is being produced in our courts.

My own practice is never to get a transcript from the official transcript section. The cassettes that were referred to are used in most instances because that is the only way you can transfer the record to a private enterprise transcript service which will produce not a good but a better record and faster, not because you just listen to it. We order cassettes to prepare transcripts because it takes too long to get it through the official channels and the quality is abominable.

The fact of the matter is that the Alaskan court system is locked into this, contrary to what Mr. Stechman said. They started out with designing the courtrooms that way. They would have to redesign the courtrooms. They would have to junk a large investment. They would have to let go a large in-house bureaucracy, repair service, and so on that is in there now. They would have to hire dozens of court reporters. They are locked in. Of course, naturally they have a vested interest in defending it.

Certainly there is a generation of lawyers and judges growing up now who never knew anything better and think it is great. We muddle along. We manage, but I have worked under both systems and I can tell you now that the Federal courts in Alaska and elsewhere have the superior system. It would be foolhardy to junk it even if it could be proven, which I doubt, that it is cheaper to do so.

I am sorry if I ran overtime. I would be very happy to answer any questions you might have. You do not need to be gentle with me.

[The prepared statement of Mr. Boyko and a letter to Senator Dole follow:]

PREPARED STATEMENT OF EDGAR PAUL BOYKO

My name is Edgar Paul Boyko. Attached to my statement you will find a copy of my letter dated June 2, 1981, to the Honorable Chairman of this Sub-Committee, together with my biographical data,* which I enclosed by way of background. I have been informally advised that your committee has scheduled a one-half day of hearings on the subject matter of electronic court reporting and I am further told that there has been prepared a preliminary staff recommendation, even prior to the hearing, recommending the mandatory substitution of electronic recording equipment in the place of professional court reporters in the courts of the United States. Finally, I have been given, informally, a list of witnesses called to testify; and unless that list is inaccurate, or has been substantially revised, it would appear that if I am allowed to testify -- and there has been considerable vacillation on the part of the staff on that question -- I am apt to be the only trial lawyer who will appear before you to testify on this matter, the rest of proposed witnesses being mainly administrators, accountants and purveyors of various lines of recording equipment, both conventional and eccentric. Also, apparently only one trial judge has been invited to appear. Trying to abolish court reporters without consulting trial judges or trial lawyers seems to me to be like abolishing or automating the anesthesiologist without consulting the surgeon.

Since I volunteered to appear before you, you may properly ask what qualifies me to offer advice on this subject. First, I am a trial lawyer of thirty-five years experience in the courts of the United States and of several

*Note.--Biographical material referred to above is on file with the committee.

of the states as well as the District of Columbia. More specifically, I have practiced in Alaska for the last twenty-eight years, which includes approximately twenty-one years of heavy trial experience in the only major court system in the United States which persists in operating without the use of professional shorthand court reporters. At the same time, I have practiced in the Federal Courts in Alaska, and elsewhere, and in the courts of other states, which do employ professional court reporters, and thus have been able to keep up a running comparison of the relative merits, or demerits, as the case may be, of the two systems. I consider myself a student of the subject matter, have published articles dealing with the same, and have appeared before at least one legislative body as a witness on the subject. I have no hesitancy to tell you that I have reached very definite conclusions about electronic reporting in the court, which I will state at the out-set as follows:

Electronic court reporting and the elimination of professional shorthand court reporters is a serious mistake which threatens to undermine the integrity of the judicial process as it is practiced in the United States. It was not feasible when it was first introduced in Alaska; it is not feasible now; and I cannot conceive of any presently imaginable electronic "state of the art" which would make it so.

Quite significantly, there are few, if any, experienced trial lawyers and very few experienced trial judges who favor electronic reporting. The people who are constantly and persistently pushing for its adoption are, first of all, the purveyors of sophisticated and, incidentally very expensive, electronic equipment who understandably desire to market their product as widely as possible; and secondly administrators, accountants, bookkeepers and

efficiency experts who, while invariably paying lip service to their desire to maintain the quality of our judicial process, nevertheless, by background, orientation and motivation are primarily, if not exclusively, concerned with statistics and fiscal considerations.

Now, everybody wants to save the taxpayers money by eliminating unnecessary jobs and other non-essential expenditures. Interestingly enough, accountants and administrators rarely recommend the abolition of their own jobs. It is usually someone else whose function is expendable. I do not profess to be an expert on the controversial question as to whether installing and maintaining sophisticated and expensive electronic equipment is indeed more economical than the employment of live court reporters. I can, however, testify on first hand knowledge, that as far as the quality of the end product is concerned, i.e., the accuracy of the record and the quality and prompt availability of transcripts, there simply is no comparison. Allow me to discuss for a moment the Alaskan system, with which I am obviously most familiar.

What happens in Alaska is that the courtrooms, in the only court of record, namely the Superior Court, were designed at the outset to eliminate space for court reporters and to provide microphones and multi-track recording equipment. The machines are monitored by the so-called "in-court deputy" clerk of the court, who operates and monitors the tape recorder, keeps a log of the evidence, including testimony received, marks documentary and other evidence and keeps a running account of the same, administers oaths and serves as a court-crier and bailiff. This person, invariably female for some reason, is not skilled in court report-

ing, has a working area considerably smaller in size than the average classroom desk, is kept exceedingly busy, and in most cases performs admirably well under tremendously vexing circumstances.

At the end of each recording period the tape is transferred to the transcript section of the court system, which employs a number of transcribers, who likewise are not trained professional court reporters. Most lawyers I know, and certainly my firm, invariably prefer not to avail themselves of the services of the transcript section, when a transcript is ordered. This is because of the slowness of the process -- a daily transcript is totally out of the question -- and also because of the poor quality of the end product. By that I mean excessive references to "inaudible," or "indiscernable" portions, garbled or inaccurate reproduction of testimony, inaccurate designation of the person speaking (I have had my words put into the mouth of the judge and vice-versa), actual malfunction of equipment resulting in omissions of entire portions of the record, obliteration of parts of the record by external noises, the trailing off of voices, parties moving around and away from the microphone, two or more people speaking at once, and similar frequent interferences which of course are routinely picked up and corrected on the spot by a skilled, professional court reporter.

The general practice is to obtain cassette tapes "dubbed" from the master reel-to-reel tape and to have those transcribed by outside, freelance professionals. Here the quality of the transcript is a little better, but not much. This is partly due to the fact that again there is no professional court reporter intervening, and also the acoustic

quality of the cassette tape usually drops below that of the original tape, which for obvious reasons cannot leave the custody of the court.

Incidentally, another side effect of using electronic equipment instead of court reporters is the resulting discouragement of having questioned or disputed testimony reread. It is usually a fairly simple matter for a skilled court reporter to flip back to his or her notes and reread the questioned portion. Backing up the tape and trying to match up the portion that is desired to be replayed against the log is usually time consuming and distracting and is generally discouraged by trial judges. Yet, it is often a matter of great importance to the proper presentation of a case, that such a replay or rereading be readily available.

There are many horror stories of electronic equipment malfunctions, which have been related again and again to inquiring legislators and others and I am not going to repeat them here. Because of some truly hair-raising experiences, there is a standing rule in my law offices that I will not permit the use of tape recorder "reporters" for the taking of oral depositions, whether we initiate them or the other side. I simply will not be a party to a deposition where the record is made by anyone other than a skilled, professional court reporter. I assure you that this is based upon a series of absolutely horrendous experiences which I will be happy to relate in detail to any member of your committee, curious to hear the specifics of my "war stories." If you were to interview Alaska's experienced trial lawyers and trial judges, you would find that the vast majority are dissatisfied with electronic reporting and would prefer to have professional court reporters available.

The few that disagree, in most cases, have never known a different system and, because we have been able to muddle through, assume that this is the best quality record which can be achieved. No doubt, there are some administrators and fiscal people who will tell you that the system is great. But if you pressed some of these people, they would probably be in favor of abolishing jury trials, preliminary hearings in felony cases and the rules of evidence, to mention just a few items which the sharp pencil folk consider "luxuries," but which traditional lawyers regard as vital safeguards of the quality of the American way of life as we know it.

By way of anecdote (and this is a true story), for a brief, but unhappy period, the City of Anchorage -- Alaska's largest -- had a chief of police who once publicly stated that he thought criminal trials were a waste of time; that his people did not arrest innocent persons, and that the police should be allowed to make the final disposition of criminal cases without the interference of courts and juries. Let me hasten to say that gentleman did not hold his position very long. I would like to think that the vast majority of Americans, be they ever so fiscally conservative and financially prudent, would agree that there are certain basic safeguards built into our laws and constitutions which we cannot afford to dispense with, regardless of the theoretical saving in expenditures. I would think that the preservation of an accurate and reliable trial record, which is one of the essential guarantees of the integrity of the administration of justice, would be one of these indispensable requirements.

Why, then, the repeated and constantly recurring attempts to attack and eliminate from the professional

justice team an essential component member? As I have often discussed with my friends on the bench, if you successfully eliminate the professional court reporter and substitute an electronic gadget, what is to prevent the judges from being next? After some initial hilarity, this question often succeeds in arousing some legitimate concern. When you come to think of it, many judicial functions are performed in the traditional binary mode of your basic computer: Sustained-overruled; granted-denied; guilty-not guilty; plaintiff-defendant; admitted-rejected; etc. It may very well be that in some future Orwellian society litigation will be a battle of computer punch cards mailed to an omniscient central electronic brain, which after the appropriate whirring and clicking of relays will spit out a printout form of judgment, decree or disposition. Maybe it will even pay out judgments from deposits by the parties, like some of the newfangled automated bank tellers, which are proliferating in our big cities. Personally, I hope to be long dead and gone when this electronic Nirvana descends upon us.

I happen to believe in the value of customs, tradition and historical continuity. I happen to believe in the dignity of the human individual and that technology should serve humanity, not be its master. I happen to believe that the object of laws and courts is the production of something called Justice, or at least a reasonable approximation of that ideal, and I do not believe that something so subtle and profound can be achieved by mindless machines. It takes a dedicated and intelligent application of the collective minds of the participants in the adversary process: the judges, lawyers, clerks and, yes, the professional court reporters. I do not care what claims are made

for the "state of the art" of highpriced electronic gadgets, no machine has yet been devised by man that can exercise independent judgment; that is possessed of a sense of what is ethical, fair or reasonable, or that can exercise discretion based upon knowledge, experience and moral values. It takes all these ingredients and more to produce a functioning justice team which can give substance to the ideals embodied in our constitution and laws. As long as I have been in the professional life of a trial advocate -- thirty-five busy years -- I can remember witnessing recurrent assaults upon the foundational pillars of our system of administering justice. Attacks upon the adversary system; assaults upon the jury system; onslaughts upon professional court reporting; attempts to replace intelligent pleadings with forms designed by file clerks; efforts to reduce the administration of justice to its lowest common denominator.

Here, as in all other aspects of our cherished form of government and our free way of life, so envied and admired throughout the world, the watchword still holds true, that "eternal vigilance is the price of liberty". It is this need for vigilance which brings me here.

I have no quarrel with the legitimate commercial aspirations of the purveyors of electronic recording equipment. They have their place in the free enterprise system as have the merchants of armaments, or the manufacturers of chemical fertilizers. But when in their zeal to penetrate the market place, they threaten to undermine the quality of our life, it behooves those of us who understand and care about what makes our form of government so superior, our methods of the administration of justice so desirable, to rise up and defend those values which transcend entries on a

bookkeeper's ledger. It is an historical fact that the first manifestation of the disintegration of liberty under authoritarian regimes is always the degradation of the judicial system. It is equally important to recognize that such degradation rarely occurs overnight. It starts in small ways, chipping away some of the social mortar here and there, a brick at a time, until the foundation wall finally crumbles.

I am convinced that the misguided Alaskan experiment -- an historical fluke, brought about by inexperience, haste and the surrender of independent judgment by gullible administrators to the blandishments of tape recorder salesmen with lavish expense accounts -- demonstrates that the professional, skilled, dedicated, court reporter is indeed a keystone in that foundation wall which underpins the administration of justice in our courts. That foundation wall may not crumble at once as a result of the removal of even so important an element, but it will surely be weakened structurally. Most assuredly, however, there will follow an assault on yet another brick, and still another. There is no limit to the ways in which the mind of man can dream up technological substitutes for intangible human values: Electronically synthesized music; chemical food substitutes; test tube babies; and heaven forbid, representative government supplanted by a black box and a red button on every T.V. set in every living room in the country, producing an instantaneous legislative consensus.

Amidst all of the churnings of modern technology, it is increasingly important to preserve the vitality of delicate human values and qualities, one of the most significant of which would seem to be the continued human and

humane administration of justice. To accomplish this objective, it is necessary that we use people to do the job, people with hearts, minds, consciences and ideals, not glorified juke boxes, even if these can spit out a thousand words per minute.

I respectfully urge you, therefore, to reject the proposal to eliminate human court reporters from the Federal courts. It would be a serious and most likely irreversible mistake.

Thank you for your courtesy in considering this statement which is submitted respectfully.

Miller, Boyko and Bell

A PROFESSIONAL LAW CORPORATION
ONE TEN JUNIPER STREET
SAN DIEGO, CALIFORNIA 92101

(714) 235-4040

June 2, 1981

Honorable Robert J. Dole, U.S.S.
2213 Dirksen, Senate Office Building
Washington D.C. 20410

Re: Proposed hearings of Sub-Committee on
the Federal courts, on the subject of
use of electronic court reporting equipment

My Dear Senator Dole:

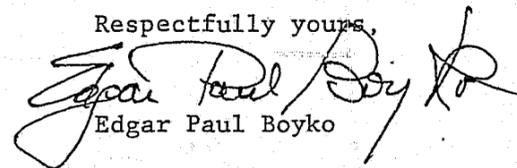
It has been brought to my attention that the above-referenced Sub-Committee of which you are the Chairman will be holding hearings on the matter of the desirability of installing fully automated electronic court reporting equipment in the Federal courts. As one who has practiced law in the courts of the State of Alaska since the establishment of those courts to the present date, I am intimately familiar with both the advantages and the drawbacks of this arrangement. As I am sure you know, the courts of Alaska have since their inception relied entirely on electronic equipment, monitored only by a so-called "in-court deputy clerk". To my knowledge, this is the only major jurisdiction where this experiment has been tried and where there has been established a considerable track record.

I would appreciate an opportunity to appear before your Committee and share with you my knowledge and experience in this area from the particular point of view of a trial lawyer and also as the former Attorney General of the State, with full administrative supervision over the entire civil and criminal litigation spectrum of activity of the State.

I have taken the liberty of enclosing copies of entries from the Martindale-Hubbell Directory and from "Who Is Who In America", to furnish some information concerning my background. Moreover, Senator Ted Stevens, Senator Frank Murkowski and Congressman Don Young of Alaska all have known me for years and I am sure will respond to any inquiry your office might make.

Any courtesy you may extend to me in allowing me to appear before your Committee, at my own expense, to testify, will be appreciated.

Respectfully yours,



Edgar Paul Boyko

EPB/kjg

cc: Honorable Ted Stevens, U.S.S.
Honorable Frank Murkowski, U.S.S.
Honorable Don Young, U.S.S.

Senator DOLE. I do not want to start a debate here between you and Mr. Stechman, but he did reach for his book which I assume has some polling information in it. Is that correct? Mr. Stechman, did you find some polling information there?

Mr. STECHMAN. First of all, I would like to state that—

Senator DOLE. We do not need a faceoff here.

Mr. STECHMAN. No, no. I left my .357 in Anchorage so Mr. Boyko has nothing to fear.

The legislative audit committee audited our report on electronic court reporting which forms the basis of our written testimony for these proceedings. They also surveyed attorneys and judges within the State. It is interesting to note that of the Alaska State judges queried, none of them rated the system inadequate or below. Only 5 percent of the attorneys rated it inadequate or below. Obviously Mr. Boyko is one of those. All I can say is some people prefer horses over automobiles. It works for us.

Mr. BOYKO. Certainly on muddy roads they are superior.

I do not know where the statistics come from. Of course, as elsewhere, Mr. Chairman, the number of trial lawyers out of the total number of the bar is relatively small. The people who are in the courts all the time, as I have been for 35 years, are probably no more than 10 or 15 percent. Of those, probably better than half in Alaska have never known a different system and they find it adequate.

Yes, I find it adequate under my Alaskan practice, but I also practice in California and in the Federal courts. It is a relief because when I need a record, I get a good one. I do not get inaudibles. I do not get indiscernibles. I do not get overlaps. I do not have sudden gaps appearing. I could go on with the horror stories, but you have more important things to do.

If you have even one mistrial because of the inadequacies of the electronic system, you condemn the whole thing in my estimation, and we have had more than one.

Senator DOLE. You can see what you are in for, Judge. You are going to have a different system, right?

Judge CAHOON. Yes, sir. I might say that concerning this reference to trial judges, I have an 11-judge complement and they unanimously, after inspection of the various systems, agreed that we should take this route. Seven of them come out of a lower trial court system in Maryland which has had electronic recording systems of less elaboration than this one for 10 years. They are experienced with it. We have had electronic recording systems in our domestic relations master system for years.

We have examined what is here. I would stress what Mr. Polansky said about the use of the system in the superior court. I would point out that it has not been confined strictly to those high volume proceedings. It has been utilized in trials. It was utilized in the Hanafi murder trial case, not exclusively—they had a backup—but it was used. The reports that I got were that it was a good record that was maintained electronically in there. It is significant that they are extending it through their system.

Senator DOLE. Mr. Stechman, have there been any Alaska Supreme Court opinions reversing lower court decisions on the basis of unintelligible transcripts, thus requiring new trials?

Mr. STECHMAN. I asked that question shortly before I left, of our staff counsel. His answer to me was no.

SPECIFIC PROBLEMS ENCOUNTERED WITH ELECTRONIC REPORTING

Mr. BOYKO. I believe that is correct, Senator. I do not think that has occurred. However, there have occurred a number of instances where there were functional breakdowns.

One in particular that I recall involved a preliminary injunction hearing at which apparently two out of the several microphones went dead. Only one side got on the record. It was a very bitterly contested hearing with diametrically opposed testimony. They had to rerun it, and of course by this time everybody had the advantage of a dry run. I think justice was not served.

I know of other instances where, after 1½ hours of testimony, it was discovered that none had been recorded. This involved some rather difficult and protracted cross-examination of a hostile witness. As a lawyer, you can imagine what that will do to you. How many of these instances do you have to have to realize that you are working with a very chancey system?

Senator DOLE. Judge Cahoon?

Judge CAHOON. I would like to point out that the system we are procuring and the one in the superior court has a failsafe system for that. There is an audio signal that goes off in the central control room where it is being monitored all the time. Then there is a 10-second period of time to flip over to an operational unit.

Senator DOLE. I think there was a system here in the District that failed a few years ago. There was a gap in the tape. I remember hearing about that.

Mr. POLANSKY. No one ever traced that to the audio recording system, however. I do not think they asked the audio recording system to testify on that either.

Senator DOLE. What about video? We have had a little of that here in Congress. Has that been proposed as another method of recording court proceedings?

Mr. BOYKO. I am familiar with that, Mr. Chairman. I tried a month's-long first degree murder trial in Anchorage, which as a matter of a pilot experiment was recorded in its entirety on videotape. I tell you, it was a great thing for the ego, but I do not think it is very practical. You can just see an appellate court watching a month-long trial on video. They would spend a month watching it.

Senator DOLE. The ones we have had have not done much for the ego.

Mr. BOYKO. Maybe I am more readily satisfied, Mr. Chairman, with my own performance.

Senator DOLE. The performances were great in Abscam, but I am not too sure what it did for the institution.

I wanted to ask Mr. Polansky, but I guess any of you can answer: What constitutes a certified copy of the court record? Does a tape produced by electronic recording equipment qualify as the official record?

Mr. POLANSKY. We do not issue the tapes themselves in the District of Columbia. At times, we permit the lawyers, in the presence of the judge, to listen to the tape.

The transcript is that which is delivered to the attorneys or the litigants. I am avoiding the word certification because the certification that comes from our contractor certifies that they have, to the best of their ability, transferred from that tape onto paper the words that were on that tape. That is, in fact, all they can certify to.

Mr. STECHMAN. In our case, copies of the electronic recording, be they reel-to-reel copies or cassette copies, are certified by our transcript department as certified copies of the record.

Judge CAHOON. That is what we contemplate.

Senator DOLE. That is what you would object to, Mr. Boyko?

Mr. BOYKO. Yes, indeed, because they certify a lot of inaudibles, indiscernibles, and I have had them certified where I made rulings from the bench and the judge was making an objection. I kid you not.

Mr. POLANSKY. Were your rulings better than his objections?

Mr. BOYKO. They were actually the judge's rulings, but the machine or transcriber did not know who was talking.

Senator DOLE. I can see that as an obvious problem.

Mr. BOYKO. Another problem is our trial judges are most reluctant to play back any testimony because it is such a hassle. Everything stops and the monitor fools around with punching keys and listens and goes back and forth. Finally, maybe you reach the spot and maybe you do not.

Now I read in some of the statements that were filed here today that they have better equipment for that now, but my experience with it is the judges, rather than go through all of that, say, "No, do not read it back. Just repeat it or try to remember."

Or a witness, on cross-examination, will say, "I did not say that. No, I did not say that." Well, now you know he said it. The most effective way to get that in front of the jury then and there is to have the reporter read back what he said. A reporter flips back through his tape and there it is.

Incidentally, that is one of the problems with voice writing and stenomask. You cannot do that. You have to go back on the tape.

With this equipment, the judges say, "I do not want to sit here for 10 minutes and let the jury twiddle their thumbs while they try to find the spot on the tape."

In many instances, that is a very severe handicap. It has happened to me many times and I am sure it has happened to others.

Mr. POLANSKY. I would submit, sir, that with our logging and our recording system, it is easier to get playback than it is to flip through the paper to locate the section of the testimony.

Judge CAHOON. That was the experience reported to me by the judges in the Superior Court.

Mr. STECHMAN. That has been our experience, too. I think the problem is being grossly exaggerated. We make log notes as the proceedings go on. The time it takes for an in-court clerk to locate given testimony is never 10 minutes. It is a matter of less than a minute, probably, at the most.

Mr. BOYKO. Let me say to that, Mr. Chairman, that you have in your records a telegram from Judge Gerald Van Humeson, who used to be the presiding judge and is still a member of the bench in the fourth judicial district, and who, without conferring with me,

made the same observation that there is a great reluctance to play back testimony because of the technical difficulties and delays involved.

I hope we can get a transcript of what Mr. Stechman said because next time a judge says to me, "No, Mr. Boyko, I am not going to have them play this back because it takes too long," I am going to be able to say, "What do you mean? Look what the administrator's office says. It does not take too long. There is no problem." Maybe I can remedy it that way.

Senator DOLE. We might be able to arrange for that.

I thank the panel very much. Again, we will not try to burden you with written questions, but if we do send you questions, we hope you might be able to respond for the record.

Mr. POLANSKY. We certainly will. I renew the invitation for you to visit and see our system.

Senator DOLE. I would like to do that. Thank you.

Our final panel is Ralph Kleps, court management consultant, San Francisco, Calif., and Richard W. Delaplain, senior staff associate, National Center for State Courts, Williamsburg, Va.

Mr. VELDE. Mr. Chairman, Mr. Kleps has had a long and distinguished career as the court administrator for the State of California. He comes to us with great experience in his field.

Senator DOLE. We have one unidentified party at the table.

Mr. DELAPLAIN. My name is Richard Delaplain. On my left is Mary Louise Clifford, who is staff associate with the National Center for State Courts and was involved in our study on computer-aided transcription.

**STATEMENT OF RALPH KLEPS, COURT MANAGEMENT
CONSULTANT, SAN FRANCISCO, CALIF.**

Mr. KLEPS. Senator Dole, I deeply appreciate being here. Of course, my prepared remarks are in the record and so I will be very brief.

I wanted to pick up on a point that you made a while back. That is, we have in the court system an established corps of people who are hard at work and are not going to be displaced. If they are to be displaced, it is way down the line somewhere.

Improvement in the court processes of the Nation, except perhaps for Alaska where they do not have court reporters, involves working with them. Where court reporters are at work serving the courts, it is important that improvement be directed toward making those reporters more capable, faster, and more able to do the job that needs doing.

I have to say that we are in a revolution produced by the mini-computer. It is about 4 years old. It was as late as the latter part of 1976 or early in 1977 that the first mini-computer to transcribe successfully from a stenotype reporter's notes (through a separate disc which has on it the symbols of that reporter) first went into operation.

As Mr. Delaplain's report points out, the growth has been very rapid. It went up about 75 percent last year. I have been an adviser for 3 years now to the company that pioneered this technology in California. It is part of the minicomputer revolution that is now going on.

That means that what we are doing is substituting automation for a labor intensive activity. It is the case, for example, that a typist can do 10 to 12 pages per hour. As we all know, from looking at the kind of automated typing that each of us has now, with electronic typewriters and printwheels you can do 100 pages an hour of typing if you put it through the modern kind of typing machinery that works electronically. That cuts to about one-tenth the time that it takes to produce the pages we are talking about.

If you look at this reporting function from the typing end, instead of putting a typist on those 400 or 4,000 pages and have her type them at 10 to 12 pages an hour, you could adopt a way in which you could do it at 100 pages an hour. There is a big time savings involved in that, plus the lack of any necessity to have all those typists at work.

When we talk about labor intensive functions, it is a little bit like asking if we can do anything with the assembly line. You have to have somebody on the assembly line all the time doing routine work and then keep multiplying the number of them. Obviously if you can do it through automation, you do not need all the people. That of course is what the automobile industry is trying to figure out now. How do you do the job through automation, letting those ordinary processes be done by some automated equipment?

It can be done with court reporting. It has been proved so around the country and all within the last 4 years. My assignment for Baron Data has been to explain this to judges and lawyers. I still find that I bump into almost any judge or lawyer and they have never heard about the fact that within the last 4 years we have created a revolution in the production of transcripts.

For example, in San Francisco we had one reporter do an IBM-Trans America case, delivering transcripts four times a day, having the day's transcript ready at the end of the day, and putting it on a nine-track tape so that IBM could put it in their main data base all in one day. I was just advised that here in the District of Columbia the American Telephone & Telegraph case is being done the same way. You cannot do this with the use of typists at 8 to 12 pages an hour.

The thing that the computer can do is to translate what is taken down on the stenotype machine because it is simultaneously recorded in digital form. Nothing happens to the paper tape which is still available. However, in digital form, everything that is on the paper tape is put on a cassette.

That cassette can be simply read into a computer and the computer can do what it does best. It can compare what is already recorded in it with what this proceeding has furnished. It puts up on the screen the full transcript page properly formatted. If you worry about blank spaces and all the rest of it, the computer can be programmed so you get uniform paging out of it.

Once it is edited on the screen—and that can be done at 40 to 60 pages an hour by an experienced person, either the reporter or a stenotype reader who is not fast enough to be a reporter—it is printed at 100 pages per hour. That is the technology that is now being used widely.

My client has about 280 of these installations now. When I first started working with them in 1978, they had 60. The numbers are

going up satisfactorily, and my view is that this technology will take over. It is taking over in the freelance firms now.

One firm I visited the other day has 24 reporters, 3 computers, 3 operators on the screen, and works around the clock on 3 shifts.

What we ought to talk about is how Congress can apply this technology to the Federal courts and how aid can be given to get this kind of technology for their best reporters.

Thank you.

Senator DOLE. Thank you very much.

[The prepared statement and exhibits of Mr. Kleps follow:]

PREPARED STATEMENT OF RALPH N. KLEPS

1. Qualifications

As the attached biographical statement shows,* I have had a public career that includes five years as the first Presiding Officer of California's centralized Office of Administrative Hearings (1945-1950), 11 years as the state's Legislative Counsel and 16 years as its first Administrative Director of the Courts (1961-1977). In all of these assignments I have dealt with the problems involved in court reporting and transcript delay. Since mid-1978 I have been the court management adviser for Baron Data of San Leandro, California, the developer of the first commercially-successful mini-computer system for the computer-aided transcription of court reporters' notes.

2. The technology

In the 10 years between 1971 and 1981 the technological problems involved in computer transcription have been solved, as the February 1981 report by the National Center for State Courts, entitled Computer-Aided Transcription in the Courts, makes abundantly clear. There is, of course a good deal of history behind this technical achievement which I will not take time to repeat here. It is detailed in the bibliographical references that I have attached (Exhibit A), and it is summarized in a 1979 historical study which I prepared for Baron Data, entitled An Update Report on Computer-Aided Transcription (CAT) Systems (Exhibit B).

For those who are not familiar with the use of computers to produce court transcripts, a few words of clarification are needed. In discussing CAT we are talking about a labor-saving device; we're talking about substituting automation for dictation in the process of converting a stenotype reporter's paper notes into final transcript copy. The computer only works with machine shorthand notes, but it can relieve such reporters of all dictation as well as removing the need for successive drafts in typing transcripts. It does this at speeds that would not have been believable a few years ago and, under proper conditions, will do the translation at a cost that is comparable to the cost of a typist's salary.

*Biographical material referred to above is on file with the committee.

The 1981 NCSC report states that there were five CAT vendors with viable operational systems at the end of 1980 and notes that Baron Data's systems, which have been on the market since 1976, are the predominant ones (250 installations and 1,500 reporters). The report also gives the 1980 growth figures on CAT as a 75 per cent increase in the number of installations (200 to 345) and as a 125 per cent increase in the number of reporters (800 to 1,800).

Your committee's hearing is thus being held at a most significant point in the development of the new technology and against the background of rapid growth in a field where the technological advances of the past decade have been truly phenomenal.

3. The environment

Preliminarily, it is essential to clarify the terminology. We are interested in "official court reporting," but we must remember that there is a large segment of the verbatim reporting field that does not do official court reporting at all. That private reporting segment, incidentally, is the one that gets the credit for making this new technology an economically feasible undertaking. For example, Baron Data was organized in 1976 and spent its first two years concentrating on the private "free-lance reporter" market where a sufficient number of installations were made to warrant continuing its efforts. And, in this connection, it should be remembered that such industry giants as International Business Machines and Xerox had previously concluded that the field was not sufficiently large to justify their commercial entry into it.

As the members of the committee are aware, the line between "free-lance" reporting and "official" reporting is not clear-cut. Some official reporters, particularly in the Federal court system, do substantial amounts of free-lance work and, upon occasion, State courts that maintain their own salaried staffs of official reporters have found it necessary to call on private, free-lance reporters for back-up service. As a general rule, however, it is safe to assume that nearly all State court official reporters are salaried and have very little, if any, free-lance work. On the other hand, Federal court reporters typically are free to develop free-lance activities so long as they are able to do it without interfering with their court obligations.

The result of the factors I've just described is significant to this committee's inquiry. The use of computer-aided transcription is more extensive in the Federal courts than in the state systems precisely because the free-lance reporters who service the Federal courts have been able to undertake the investment expenditure that is necessary to get started. The 1981 NCSC report finds that, in 1980, about one-quarter of the private CAT installations in the country were being used by official Federal court reporters. The report also notes that official reporters are using private CAT agencies to the extent of about one-half of the private systems in the country. And the average figure for transcript pages per Federal court reporter produced on CAT equipment runs at 1,355 pages per month, a figure that is nearly twice the number suggested by the NCSC report for an economically feasible installation.

The Federal court system thus constitutes an environment in which CAT reporting is developing at a rapid rate and in which expansion will certainly continue. Since that is the case, one might wonder what Congress can do in this area that isn't already being done, and that question brings us to a consideration of the economics of installing CAT systems.

4. The economics of CAT

A substantial investment is needed for a stenotype reporter to get into CAT transcript production, particularly if he is to purchase his own equipment (at \$50,000 to \$70,000) or to lease it (at \$1,000 to \$2,000 per month). Of course, some official court reporters have been able to work out an arrangement for putting their digital stenotype notes through CAT equipment owned by private, free-lance agencies by paying translation charges that are equivalent to their current typing costs. In such cases the reporter's capital investment would be limited to purchasing a modified stenotype machine (to produce the digital tape for translation) and to buying his own computer disk dictionary. These one-time costs run in the neighborhood of \$3,000.

Such arrangements are not easy to work out, however, because private CAT reporters are in great demand for deposition work and for other verbatim reporting assignments. Inevitably, the "outsider's" job would take second place to the needs of the private firm itself.

Despite these problems, it may well be that CAT installations can be privately acquired at a rapid enough rate to meet the needs of the Federal courts in the metropolitan areas at least. But in more remote areas, and in the smaller communities, transcript delays in the Federal courts will continue unless some means for assisting reporters to utilize modern technology can be devised.

Transcript delay has always been a serious problem in court systems and the Federal courts are no exception. Since stenotype operators will continue to provide transcripts for Federal courts for the foreseeable future, it is worth considering seriously whether it is possible to speed up this technological transition without unduly burdening the budget of the Federal courts.

If we were talking about installing a modern copier or word-processing equipment, no problem would exist. The cost of the necessary equipment would be budgeted and the employees would be trained to use it. In the field of court reporting, however, a barrier exists to the use of public money for upgrading the work of Federal court reporters. A statute provides that a Federal court reporter must "furnish all supplies" needed to produce court transcripts "at his own expense." (28 U.S.C., Sec. 753(e).)

In the early days of CAT it was concluded that the use of public funds to install a CAT translation system in a Federal court would violate this section of the law. That was so because, under the cost figures that then prevailed, there was no likelihood that the reporters could reimburse the government for the cost of the computer through the charges paid by them for the translation of their notes. A 1977 Opinion of the Comptroller General (B-185484) ruled, however, that if an arrangement could be concluded in which the charges to reporters for the computer's translation services were sufficient to pay back its cost over time, the installation at public expense would not violate the law.

The recent NCSC study undertook to determine the "break-even point" for a CAT installation in a state court system. That point was described as the time by which the court system would recover all capital and operating costs through charges to reporters for computer translation services. Although the computations are somewhat complicated, the conclusion is that such costs can be recovered in six to seven years provided sufficient pages of transcript are put through the equipment. Since Federal court CAT

reporters are estimated in the NCSC report to average 1,355 pages per month, as against the 700 page per reporter per month standard recommended in the report, it would seem feasible for the Federal courts to recover their costs on an even faster schedule. As an example, if four reporters put 1,400 pages per month on the average through a Federal court CAT installation and if they paid the 60¢ per page charge that typists are now charging, the \$3,400 per month income to the computer ought to take care of its cost on either a lease or purchase arrangement. These figures are only used to illustrate a point, of course, and they would have to be worked out precisely if the idea is to be pursued. But it seems to me that it would be worth asking the Administrative Office of the U.S. Courts to make the detailed calculations that would tell whether the "recovery of costs" principle might not make it possible to speed up the installation of CAT technology in the Federal court system.

5. Future developments

One of the significant issues in this field has to do with the competition that exists for the services of highly-skilled CAT reporters. Practicing lawyers are beginning to discover the advantages of computer-produced transcripts, which include the ability to store them and to search them in computer-readable form. Searching by "key-word" indexing makes it possible to utilize pre-trial depositions in ways that were not possible a short time ago. Such transcripts can be transmitted as well as searched over telephone lines, and litigation support firms are storing and furnishing computer-produced transcripts in aid of trial preparation and trial strategy. The result is that computer reporters are in great demand, and the demand is growing. I was once told by a litigation section chief in the U.S. Department of Justice that the most important help Baron Data could give him would be a list of its users. He wanted to be sure that a computer reporter was assigned to each of their pretrial deposition hearings everywhere in the nation.

The result of this increasing demand, of course, is that excellent reporters will be leaving the service of courts for the more lucrative and more exciting field of private CAT reporting. I know personally a couple of excellent reporters who have left official reporting because of the opportunities offered them in

private CAT firms. It doesn't take too much foresight to predict that, under such circumstances, courts are apt to be left with the less qualified reporters while the transcript burdens and the delay factors continue to increase. Some substantial expenditure of effort would seem to be worth while to see that this scenario doesn't actually take place.

My final comment has to do with the need for assembling and disseminating information to Federal court judges and their reporters concerning the developing use of computer-aided transcription in the Federal system. An inventory should be prepared listing the Federal court reporters who are presently using CAT, and reports should be circulated describing the results achieved with it. The Administrative Office of the Courts might be asked to secure data on the actual performance capabilities of the different types of CAT equipment now on the market, thus providing information that would be very valuable to Federal court reporters who are considering going into CAT production. Although the recent NCSC report on "the state of the art" was very necessary and was well done, it does not provide such a "benchmark study" of the existing systems and vendors' claims continue to furnish the only information available.

The information that such periodic reports could provide would be very helpful to Federal court reporters and would also be of assistance to Federal judges. When new reporters are selected, accurate information on current developments in the CAT field could lead a judge to obtain better court reporting services than might otherwise be the case. And, although the Federal courts would be the primary beneficiaries of such an exchange, the information would help other courts throughout the nation and would assist in the sound development of CAT technology as well.

EXHIBIT A

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EXHIBIT B

EXCERPT FROM

AN UPDATE REPORT ON COMPUTER-AIDED TRANSCRIPTION
(CAT) SYSTEMS

Ralph N. Kleps *
Counselor - Law and Court Management June 1979
P. O. Box 31509
San Francisco, CA 94131

I. Preface

This report of recent developments in computer-aided transcription (CAT) systems was prepared at the request of Baron Data Systems, of Oakland, California, which is the only active vendor in the field as of April 1, 1979. The published literature on the subject, which is referred to hereafter, does not cover the period in which Baron's minicomputer system became the preeminent one in the field, the years 1977 and 1978. This report describes its recent experiences and outlines its present status.

The American Bar Association's new Commission to Reduce Court Costs and Delay has expressed an interest in exploring whether computer-aided transcription of court documents and transcripts can make a contribution to solving problems of cost and delay in litigation. A background paper on the subject was suggested and Baron Data Systems is pleased to provide this report as a preliminary assessment of the current state of the art.

II. Early Efforts

The possibility that automation could eliminate transcript delays in the judicial systems of the United States has been more than 20 years coming to fruition. In the early 1950's the U. S. Air Force enlisted the aid of International Business Machines Corporation (IBM) in order to develop a system for the computerized translation of foreign languages into English.¹ The experience gained in that undertaking led IBM to consider the possibility of converting machine shorthand symbols into English by similar techniques, a venture which has been said to have cost some \$7 million dollars when combined with the foreign language project.

Since stenotype shorthand is simply an abbreviated form of English, the translation function (conceptually at least) is a far simpler task than the translation of foreign languages. Using an adaptation of the language translation programs, therefore, IBM explored the possibility of creating a large, random-access "dictionary" of stenotype symbols with their English language equivalents. Matching a paper tape from a particular proceeding with the pre-recorded dictionary made it possible to convert the machine shorthand notes into transcript form very rapidly, thus solving the troubling problem of persistent delays in the transcribing of court reporters' notes on a theoretical basis.

* Former Administrative Director of the California Courts (1961 to 1977). Mr. Kleps is engaged in writing, teaching and consulting in the field of court management.

In 1965 Itek Corporation of Lexington, Massachusetts, reported that the Air Force translation program was being used to convert Russian and Chinese technical documents into English, and that Itek believed that the translation of machine shorthand symbols into English was feasible and could well be profitable. Itek also concluded that stenotype machines could be converted into keypunch use for the entry of data into computers. Punched cards, paper tape and magnetic tape were recommended means for the rapid production of transcripts and documents in standard English from the computer. Automatic typesetting, for the production of printed documents, was another feature of the machine shorthand translation system that was foreseen by Itek.³ Itek is also believed to have expended substantial sums of research and development funds in the pursuit of this undertaking. Neither company, however, undertook to enter the computer-aided transcription market on a commercial basis despite their pioneering efforts in the field.

III. The Large Scale Computer Effort

By 1971 the technology for transcribing stenotype notes into English by computer was sufficiently developed to inspire the Federal Judicial Center to undertake an exploratory study. Using funds provided by the National Institute of Law Enforcement and Criminal Justice, which is the research arm of the Law Enforcement Assistance Administration (LEAA), the Center contracted for such a study with the National Bureau of Standards (NBS).⁴ The NBS report evaluated the computer-aided transcription process, but it also surveyed the state of the art in court reporting generally, as well as accumulating a list of statutory requirements and a bibliography on the subject.

Only one computer-aided translation system was then being offered, by Stenocomp, Inc. of Falls Church, Virginia, and their equipment was naturally used in the experiment. Court reporters from Illinois, Michigan, Pennsylvania and the District of Columbia participated in the study. Magnetic tape recordings of stenotype notes were run on an IBM 360 after a two-stage process that was required to make the tape compatible with the computer. A special glossary containing the reporter's unique stenotype symbols, proper names, and unusual spellings were furnished to the computer facility with each magnetic tape of a proceeding.

The NBS report describes the cost elements, administrative arrangements and comparative qualities of the several reporting systems studied. Insofar as computer-aided transcription is concerned, the NBS report notes the significant costs that were then involved (a lease charge of \$6,667 per month for the computer software, not including computer time, key punching or training time), as well as operating difficulties arising from words not in the master dictionary, fingering errors, and words that sound alike and are therefore represented by a single stenotype symbol. Although computer-aided transcription was then found to be the most costly method, further development was recommended and where delays in transcript production were excessive it was thought possible that a higher cost to reduce delay might be acceptable to some courts.

In the years that followed, a variety of companies looked into the possibility that the field of computer-aided transcription might be of interest to them.⁵ Only three, however, developed the use of large scale computers to a point that made a commercial offering possible: Stenocomp, Inc. of Falls Church, Va.; Stentran Systems Company of Viena, Va.; and Stenograph Corporation of Skokie, Ill.

Stenocomp was an early entrant in the field, as indicated above. Their plan was that a large scale computer would be used to store up to 100,000 English words with their matching stenotype symbols ("outlines"). Thereafter, by telephone transmission to the central computer facility a cathode ray unit (CRT) could be used to edit the reporter's stenotype notes and the translation function could be carried out on the central computer. Stenocomp's most successful venture was an LEAA-sponsored installation in the Philadelphia Court of Common Pleas in 1975. The National Institute of Law Enforcement and Criminal Justice (LEAA) again

provided the funds and the National Center for State Courts administered the project. Fifteen reporters were selected for the experiment, which used the Stenocomp programs and ran them on the court's IBM 370 computer. The federally-funded project ran from October 1975 to December 1976 when it was taken over as a continuing operation by the court.⁶

By late 1976 Stenocomp was listed as having two computer translation operations, its own main facility in Falls Church, Va., and the court-controlled facility in Philadelphia. Other users were also operating under contracts with Stenocomp in Washington and in some other metropolitan areas.⁷ By March of 1979, however, the company had become inactive and its programs were only being used by one licensee and by a reduced number of reporters on the Philadelphia court's system.

A second major effort was mounted by Stentran Systems Company of Vienna, Va.⁸ After a developmental period of some five to six years, the company organized in 1972 and was prepared to offer its services commercially by early 1975. Translation services were performed on an IBM 370 at Stentran's Virginia facility, as was their minicomputer editing program. Reporters furnished their notes in digital cassette form and received a first run transcript through the mail. After correction a final copy could be run.⁹ It is estimated that over \$2,000,000 were invested by Stentran in the development of its system. Although some experimental programs were installed in federal courts, it was reported in NCSC's 1977 "Users' Guidebook" (pages 74-77) that Stentran's only major contract was for the transcription of Federal Trade Commission proceedings. After experiencing financial difficulties Stentran terminated its operations in early 1979.

Stenographic Corporation of Skokie, Illinois, is the third vendor in the large scale computer category that achieved an operational capacity in the CAT field. The primary interest of the firm is the production and sale of Stenograph machines, but it made a substantial investment in developing a computer-aided transcription system for use in transcript preparation and in word processing applications. It is estimated that over \$2,000,000 were invested in this undertaking through 1974. Translation services are performed exclusively on an IBM 370/168 located in a service bureau in the Chicago area. Access to the computer is by telephone, and text editing is available in the user's office. Computer translation services are currently being provided to reporters in Detroit, Kalamazoo, Minneapolis, Harrisburg, Oklahoma City and Sacramento. Stenograph Corporation is continuing its efforts to develop an economical CAT system utilizing the latest technology.

IV. The Minicomputer Effort

In 1972 Information Terminals Corporation of Sunnyvale, Ca. (ITC), operating through a subsidiary called Transcripts Inc., commenced an effort to develop a stand-alone minicomputer system for the transcription of stenotype notes. ITC acquired the assets of Stentron, Inc., of San Jose, Ca., whose work in the field dated back a number of years and which held several software patents for its processes.¹⁰ ITC is engaged in the sale and distribution of magnetic tape data cassettes and it ultimately invested approximately \$750,000 in its CAT effort. ITC made two special contributions to the field. Its system was designed so as not to require the use of a large scale computer since technology was moving in the direction of minicomputers and microprocessors. It also provided each reporter with an individual, personalized dictionary that contained only his own stenotype outlines.

ITC, however, did not reach the commercial marketing stage. In a proposal made to the National Center for State Courts in 1973, it offered to set up a computer-aided transcription service center in the San Francisco Bay area, using its minicomputer translation program. It was prepared to train 40 reporters and to provide its own editing services on a CRT unit.¹¹ NCSC's project advisory committee concluded, however, that none of the vendors who responded to its "service center" request had presented cost data that would make such centers feasible and none was funded. When a subsequent request for proposals was made by NCSC in late 1974 for the court-operated CAT "transcription service center" in Philadelphia, ITC did not respond because its software was not designed for the IBM 360 equipment that the court intended to use.¹² By December 1975 ITC was prepared to sell its assets and to retire from the field.

In 1974 and 1975 Xerox Corporation's Business Development Group in El Segundo, Ca., committed about \$3,000,000 to an attempt to develop a CAT system using the minicomputer approach. A digital magnetic tape cassette was used to capture the reporter's stenotype outlines, and a stand-alone minicomputer was used to translate, edit and print the transcripts. A CRT unit displayed the translated texts with editing guides shown in color. Although a "main dictionary" was provided for each translation unit, the individualized dictionaries of up to 14 reporters were also added for use in the transcription process.

Experiments were conducted with the assistance of private reporting firms, of several industrial firms and of the Los Angeles Bar Association. Xerox ultimately concluded, however, that the size of the potential market did not warrant further expenditure of effort and the project was terminated in 1976.

Baron Data Systems of Oakland, Ca., was organized in February 1976. Its founders, after reviewing the developmental work of Xerox Corporation and ITC, decided to acquire the ITC software rights and associated patents. Baron chose to rely on minicomputer hardware manufactured and distributed by Datapoint Corporation of San Antonio, Texas. It did, however, develop its own software programs and it manufactures its own stenotype converter for the recording of stenotype outlines on digital tape cassettes. Its equipment provides a stand-alone, user-controlled system which is based on a "personalized" dictionary for each reporter.

Baron's earliest installation was in Dallas, Texas, in September 1976. At the time of the NCSC 1977 "Users' Guidebook" report, Baron had only two "start up" operations, the one in Dallas and one in Modesto, California.¹³ The company concentrated on private reporting firms during 1977 and 1978; and by March 1979 it had over 80 Baron installations in the United States. Some 400 reporters were using the equipment and were producing about 250,000 pages of transcript per month. About seven to ten new installations are being made each month and Baron systems have been purchased for the U. S. House of Representatives and arranged for by the Australian courts.

Baron is now the only commercial supplier of computer-aided transcription services in operation and sole source purchases and leases of its equipment are being authorized for that reason. About \$2 million dollars in development capital has been provided to enable the company to become a profitable operation. A few publicly-funded installations have been made, but the great majority of Baron customers are private firms of reporters. Baron's next marketing objective, however, is the presentation of its system and its services to the court systems of the country.¹⁴

¹ Shiner, G., "The USAF Automatic Language Translator, Mark I," I.R.E. National Convention Record, Part 4, p. 296 (1958); see also Salton, Gerald, "The Automatic Transcription of Machine Shorthand," 16 Proceedings of the Eastern Joint Computer Conference 148-159 (1959).

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Other companies were: Stenoscope, Inc. of E. Orange, N.J.; Boeing of Seattle; Stenomat, Inc. of St. Louis; Xerox Corporation of Los Angeles; Sperry-Rand Co. of Long Island; Westinghouse Electric of Schenectady, N.Y.; and TRW Co. of Los Angeles.

It is estimated that between \$15 and \$20 million have been expended in the developmental work in this field.

Senator DOLE. Mr. Delaplain.

STATEMENT OF RICHARD W. DELAPLAIN, SENIOR STAFF ASSOCIATE, NATIONAL CENTER FOR STATE COURTS, WILLIAMSBURG, VA., ACCOMPANIED BY MARY LOUISE CLIFFORD, STAFF ASSOCIATE

Mr. DELAPLAIN. Recently the National Center for State Courts completed a study of computer-aided transcription. We were specifically looking at the use of CAT systems in State courts. We did not find any in existence in Federal courts and probably, given our charter, would not have looked at them too carefully.

We specifically set out to establish how much there was in the way of CAT technology in courts and how widely it was being used in the reporting industry. We were interested in determining whether or not CAT could, in fact, produce a quicker transcript turnaround time than manual procedures. We were also interested in determining whether or not it could produce that transcript at a lower cost than doing it manually.

In addition, we were required by the grant that funded us to develop a cost-benefit methodology that a court might employ to determine whether they were a suitable candidate for CAT, and to develop implementation and management guidelines for a court that was going to attempt to use CAT.

(Continued)

⁶ See, Greenwood and Tollar, "Users' Guidebook to Computer-Aided Transcription," National Center for State Courts, Pub. No. R0031 (April 1977). This is the major work in the field and it will be referred to often in this paper as "Users' Guidebook."

The LEAA grant called for an evaluation of the Philadelphia project and it is contained in this report. See, Ch. 4 (pp. 27-44), "Case Study of Philadelphia Computer-Aided Transcription System."

⁷ Id., pp. 73-74.

⁸ Stenocomp and Stentran were reported to be the leading companies in the field in late 1974. See, Business Week (Nov. 30, 1974), p. 80.

⁹ Halasz, "CAT at Work," The National Shorthand Reporter (May 1975 and July 1975).

¹⁰ Stentron, Inc.'s organizers had worked on translation problems for a number of years and its principals continued to work with ITC.

¹¹ "Proposal for a Computer-Aided Transcription Service Center," Transcripts, Inc., Sunnyvale, Ca., (Dec. 1973).

¹² Stenocomp equipment was used. (See, footnote 6, above.) Five companies bid on the project, including Stentran and Stenographic.

¹³ "Users' Guidebook," pp. 71-72.

¹⁴ A number of the private reporting firms that constitute the large majority of Baron customers also serve, however, as official court reporters, particularly in the federal system. It is also worthy of note that Baron's first installation was an LEAA-sponsored court project in the Dallas Criminal Court (supra), and that similar installations are being planned in Atlanta, Houston, Phoenix and by the State of New Jersey.

Perhaps the most interesting court experiment with CAT equipment now running is the one undertaken by the California Court of Appeal in Sacramento. Under the direction of its Presiding Justice, and with the assistance of the Administrative Office of the California Courts, the Clerk of the Court has installed a Baron Transcription Center in his own offices and is operating it as a "service center" for trial court reporters in various areas of the district, to whom Baron stenotype converters were loaned without charge on a one year trial basis. The Court of Appeal also employs a "scope operator" to assist in editing the reporters' taped notes. The project is continuing and, as of April 1979, the Court has arranged for the installation of a second Baron Transcription Center for local use by the 10 reporters in the San Joaquin Superior Court in Stockton, California. Four Baron stenotype converters have been loaned to these reporters for one year without charge and they have assumed the responsibility for all other costs of the new installation.

We specifically did not try and compare CAT with any other reporting technology. We compared it with manual stenotype reporting, which in most of the State trial courts is the state of the art.

In order to address these issues, we visited all of the current CAT vendors. There were six at that time. There are now five. We visited a number of freelance firms who were using CAT and had a lengthy experience with it. We visited all of the courts that had installed CAT systems. We talked to almost all of the private freelance reporters who are using CAT through a telephone survey.

In addition, we conducted six detailed case studies of operations, essentially cost-benefit analysis, in four courts and two freelance agencies who were doing primarily court work, to see how the technology was working and whether or not it was cost justifiable.

Skipping over what the state of the art is, I think Mr. Kleps has pretty much told you what the number of systems is out there. I would concur that the usage of the technology is fairly widespread in the private sector. At the end of the year, 1980, there were only 11 courts that were using CAT systems. Another five had signed contracts to install computer-aided transcription.

To the best of my knowledge, there are no Federal courts where the court itself owns and controls the operation of the equipment. The operational 11 courts and 5 new courts I referred to are ones where the court itself has purchased the CAT hardware.

The usage of CAT to produce official court transcripts is a good deal more widespread than one would think from the number of computers. A significant number of official court reporters use freelance firms on a contract basis to do their transcript work. We estimate that approximately 20 percent of the 1,800 reporters using CAT, at year end 1980, were official State or Federal court reporters.

In terms of a summary of what we found out about CAT, I think that CAT is capable of producing a transcript at a lower cost than doing it manually. However, the courts are not doing very well with managing CAT systems. Given what I have heard this afternoon about the lack of management of court reporters in Federal courts, I would think that you could be heading for exactly the same kinds of problems that State courts have had. That is the inability or unwillingness to manage the court reporting resources.

CAT is not a passive technology. It requires dedication on the part of the reporters. It requires active management on the part of court management. Without those two things, our position at this point is the court is better off not getting involved in computer-aided transcription.

CAT does work, but it is not going to work unless the people involved in it are paying attention to what is going on.

There are a number of benefits that can accrue from using a CAT system. As I said, I think a court-owned CAT can be operated cost effectively. We have ample evidence from the private sector that it is operating in a cost-effective manner.

Of all of the courts we looked at, only one of them was approaching the break even point and that was only after a substantial portion of the reporters they had in that system were removed and

replaced with other reporters who were more willing to put in the time and effort required.

In terms of time savings, we found that you can produce a transcript much faster with the CAT system. We also found however that in a lot of the courts those faster transcripts were not being submitted until well after the deadlines. Some of that had to do with just pressure amongst colleagues who were not using CAT. A little bit had to do with attorneys who requested the transcripts be held. We also found reporters who were operating on a manual mode who could turn in transcripts as quickly as anybody using the CAT system.

We found two additional things: First, we did not find any direct relationship between transcript delay and appellate delay. In the States that we looked at, the appellate courts had extensive delays. It appeared that the reporters were merely taking advantage of a situation that already existed.

Second, we found that the delivery of CAT produced transcripts in the private sector is not much better than it is in the court sector in terms of turning transcripts over to attorneys on an expedited basis. Reporters apparently do not want attorneys to begin to expect expedited transcripts without having to pay expedited transcript rates.

The prepared remarks I submitted will tell you a little bit more about some of the things we found.

I would like to close by reinforcing that if a court is not prepared to actively manage a CAT system on a daily basis, if the reporters are not clearly and demonstrably committed to working on that system, including the contribution of funds to help offset the cost of that system out of their transcript fees, and if the court does not have the adequate personnel to manage that system, including the reporters, it would be our position at this time that they would be well-advised not to pursue it.

[The prepared statement of Mr. Delaplain, a review, and executive summary of the National Center for State Courts follow:]

PREPARED STATEMENT OF RICHARD W. DELAPLAIN

The National Center for State Courts has been involved in research and the provision of technical assistance to state courts (appellate and trial levels) regarding court reporting costs, court reporter management, and alternative forms of court reporting technology (stenotype, computer-assisted transcription, audio recording and video recording) for approximately the last 7 years. During that time, the National Center for State Courts has conducted studies of court reporting in numerous states.

The document attached to this statement as Appendix A (entitled Taking the Record: A Review of the Issues) summarizes the National Center's findings regarding court reporting over the past few years.

The fact that this hearing is being held demonstrates the concern of persons responsible for funding and managing courts (be they State or Federal) regarding the costs, timeliness, and quality of the court record and the production of transcripts of courts proceedings. With increasing case volumes, many courts are facing mounting difficulty in preventing delays caused by time consuming manual preparation of transcripts. This problem must be added to the issues of rising salaries and costs involved in transcript production. These growing problems have focused attention on the need to actively manage court reporting resources, as well as to examine alternative ways of producing the court record. Related issues include the skills required of an efficient court reporter, standards for measuring proficiency, ~~standards for~~ ~~study~~ submission of transcripts and the sanctions necessary to enforce these requirements, accountability, and the role of the court in operational management of court reporting resources.

My comments today are oriented to one particular aspect of court reporting technology—Computer-aided transcription (CAT). In February of this year, the National Center completed a 15 month study of computer-

aided transcription in the state courts. The study was funded by the Law Enforcement Assistance Administration's Office of Criminal Justice Programs/Adjudication Division under its Court Delay Reduction Program. In the brief period allocated this afternoon, I would like to share some of our findings and conclusions regarding the use of CAT in state courts.

The goals of this project were:

1. To establish the current state of the art in CAT technology as well as establishing how widespread the usage of this technology is in courts;
 2. To determine whether CAT can reduce transcript production costs to trial and/or appellate courts;
 3. To determine whether CAT can reduce the time required to produce appellate or other (felony preliminary hearings, sentencing hearings, or grand jury proceedings) transcripts;
 4. To develop a flexible cost/benefit methodology that could be used by all courts considering the implementation of CAT, regardless of their often unique operating environments; and,
- To develop implementation and management guidelines for courts attempting to operate CAT systems.

To achieve these goals, National Center staff (with the assistance of an advisory committee comprising of two persons from state level court administration, two trial court administrators from courts operating CAT systems, a representative from the American Bar Association's Action Commission to Reduce Court Costs and Delay, and a representative from the National Shorthand Reporters Association) visited all courts with operational CAT systems, visited all current CAT vendors to assess their technology, visited many free-lance reporting firms using CAT technology, conducted a telephone survey of almost all current private sector CAT users, and worked closely with numerous reporters from various environments to establish the basic requirements for a reporter using a CAT system. In addition, staff conducted six detailed case studies (four in

courts with operational CAT systems and two in free-lance agencies where the predominant output of the agency was official state court transcripts for local trial courts) in sites located in Arizona, California, Maryland, Texas, Utah, and Virginia.

What did we learn about CAT and the impact of a court environment on CAT?

1. State of the Art

At the beginning of 1981, there were five viable CAT vendors (located in California, Illinois, Maryland, and South Carolina) in the marketplace. These five vendors offer seven different CAT systems. Each of these systems can be configured in several different ways. The price range of these systems is from approximately \$50,000 to \$150,000; depending upon configuration desired.

There were approximately 350 CAT systems installed and operational at approximately 300 sites around the nation. Approximately 1,800 reporters are using these systems on a daily basis to produce depositions and transcripts.

Only eleven state courts (ten trial courts and one appellate court) had operational CAT systems as of the start of 1981. Five additional trial courts had signed contracts and were in the process of implementing CAT systems. Eighty-eight reporters were involved in using these 16 court-sponsored systems. No general jurisdiction federal courts have installed CAT systems, although the Court of Military Appeals is experimenting with CAT at a west coast location.

Use of CAT technology by official court reporters is much more extensive than actual installation of CAT systems within courts. A phone survey of courts and private reporting firms conducted by project staff indicated that approximately 120 (40%) of the current CAT sites were directly or indirectly involved in the production of official court transcripts. It was estimated that approximately 225 reporters who devote most of their time to official state or federal court reporting

(on a contractual basis) produce their transcripts on a CAT system located in a private agency. An additional 115 private reporters using free-lance agency CAT systems spend up to half of their time on official court work. Hence out of the estimated 1,800 reporters using CAT systems, approximately 325-375 (20%) of them were involved with official court reporting. Only a quarter of these reporters worked on CAT's being operated by state courts.

2. Cost Savings With CAT

A review of CAT use in the private sector indicates that CAT can and does save money in these agencies. Private agency estimates indicate that they are able to increase their agency productivity by factors ranging from 1-1/2 to 3 with the same reporting staff.

In the two private agencies studied by our project, one agency is producing 58,000 pages of transcripts per year for \$.18 less per page than previous manual transcription costs. The second agency is producing 36,000 pages of transcript per year on CAT at a cost \$.03 higher per page than manual production; they have increased productivity of existing reporter staff and thus have increased agency income.

Unfortunately, only one of the eleven courts currently using a CAT system has been able to achieve a cost-effective operation, and that occurred six months after our site visit and resulted from substantial changes in reporters using the system. In the remaining three courts studied, costs of using CAT ranged from \$.19 to over \$2.00 per page more than manual transcript production. In the court that is operating cost-effectively, substantial savings accrued from reducing the need for substitute reporters to fill in for CAT reporters while they worked on transcripts.

CAT can be operated cost-effectively in a court environment if the court provides careful advance planning. Most importantly, cost-effective operation of a CAT in a court environment requires active

commitment from the court reporters and active court management of court reporting resources.

3. Time Savings With CAT

Time savings in the courts we surveyed were mixed. In every CAT court, there were at least some CAT reporters who were clearly producing transcripts in a more expeditious manner using CAT. However, there was generally one or more nonCAT reporters who were also producing transcripts as quickly. In the private sector, there is ample evidence that CAT produces transcripts much faster than manual production.

Three findings regarding CAT's ability to produce transcripts more expeditiously merit separate comment. First, instances were noted where CAT reporters were producing finished transcripts much faster than their colleagues. However, these transcripts were rarely being submitted to the court as a finished product until the very last minute, and in some instances were actually held beyond established time limits. Some of the instances were attributable to peer pressure not to produce transcripts too quickly so the courts will not expect better service, and some were attributable to private attorneys requesting the reporter to delay production of the transcript. In the private sector, reporting agencies also appeared hesitant to deliver transcripts to private attorneys until the last minute. These private reporters appeared concerned that attorneys would begin to expect fast delivery of all transcripts at regular prices and would therefore no longer be willing to pay extra for "expedited" copy.

Second, it is the conclusion of our report that transcript delay may be a relatively insignificant factor in appellate court delay. In the states that we looked at, we found no case where appellate court delay could be attributed to trial court transcript delay. In instances where trial transcripts were routinely being filed late (1-3 months late), the appellate courts were taking well over 2 years to dispose of a case. In

essence, the reporters were merely adapting to an already delayed appellate process. While there is no excuse for one portion of the system (reporters) to take advantage of problems inherent in another part of the system (appellate court procedures), delay in submitting transcripts could not be considered a contributing factor to the appellate delay observed.

Third, in states and localities where time limits for transcript delivery are enforced by sanctions, appellate or other types of transcripts were rarely late, regardless of the manner of transcription. For example, in one locality in California, felony preliminary hearing transcripts that are filed late are paid for at one-half the normal page rate. These transcripts are rarely, if ever, filed late. Managing the court reporting resources and procedures is much more important than merely implementing technology in achieving timely transcript delivery.

4. General Benefits of CAT

Courts contemplating CAT implementation should review the following types of benefits that might accrue from CAT usage:

- a. With proper planning and management, CAT can save time in the production of felony preliminary hearing, grand jury, and appellate transcripts.
- b. CAT offers the court increased transcript security. In a court-sponsored CAT environment, the court should retain a copy of the reporter's translation dictionary as well as a copy of the notes (cassette). If the reporter leaves the court, almost any other CAT reporter can then produce the transcript if it is required. This eliminates having to hunt up the reporter who took the original record. Secondly, copies of the translated or untranslated notes can be maintained indefinitely on computer-readable medium (magnetic reel-to-reel tape, computer storage disks, or cassettes), in addition to the reporter's paper notes.

- c. CAT can increase the court's ability to manage court reporting resources. CAT, through production statistics produced by most of the systems, makes it much easier to track production and work habits of reporters. In addition, CAT will make a good reporter a better and more consistently productive reporter. It will not save a poor reporter, but it will highlight and document just what that particular reporter's problems are.
- d. CAT can improve court reporter morale. Reporters who are successful on CAT spend less time at their jobs. This results from the elimination of time consuming diction required with manual transcript production. If the reporter produces clean notes with a consistent shorthand style (which is the key to success with CAT) and the court employs a scoper (a person who works only at editing), the reporter's time commitment to the transcript is reduced to taking the record and one final proof-reading of the finished product. The reporters have more leisure time, or they have more time to produce transcripts if the work is available.
- e. CAT can help courts control costs. CAT eliminates the need for typists which the court is directly or indirectly (through transcript fees) paying for. CAT allows the courts and the reporters to control the transcript production costs for a set period of time (generally 5-8 years) regardless of inflation. CAT, if operating properly, should substantially reduce the need for substitute reporters in the court.

CAT reporters should help defray the cost of the court's CAT system, at least up to their current costs of manually producing transcripts (some private agencies charge their reporters considerably more than this to use their CAT systems). The income from these translation fees should allow a properly managed system to pay for itself over a 5 year period. Once the

breakeven point has been reached, the reporters' contribution to the system can be reduced. This would allow the court to essentially give the reporters a raise without any additional cost to the court.

- f. There are additional intangible benefits available to courts from the use of CAT. First, several of the CAT vendors' systems are designed to provide input or access to computerized litigation support data bases such as LEXIS or WESTLAW via the CAT system. Secondly, two of the current CAT vendors are providing CAT systems on general purpose minicomputers that have the capability to perform other functions (accounting, jury management or payroll, and word processing) simultaneously with the operation of CAT. Hence, the courts investment in technology is limited to one computer with peripheral equipment, rather than two or three computers to perform these tasks.

If transcripts can be produced more rapidly on CAT systems, they may indirectly reduce the length of time that prisoners are held in local jails awaiting resolution of an appeal. This has obvious cost savings for noncourt agencies at the local level.

Summary

The benefits that can result from use of computer-aided transcription technology in the courts can be grouped under three broad headings: cost savings, time savings, and general/intangible benefits that are difficult to quantify. It is clear from the work done during the National Center for State Court's CAT Analysis Project that all three types of benefits are achievable using CAT. In short, CAT technology can and does work, and its use is growing rapidly. Project staff estimate, based on the rate at which vendors are currently installing systems, that the number of CAT systems implemented may roughly double by year end from what they were at the start of 1981.

As more reporters begin using CAT, more courts are going to hear of CAT and become interested in possible implementation of this technology. The basic question that will arise in these courts will relate to whether CAT can operate smoothly and cost effectively in that particular court's operational and management environment. The National Center for State Courts' answer to this question, which is detailed in the CAT Analysis Project's final report entitled Computer-Aided Transcription In The Courts, is as follows:

Whether a CAT system is a cost-beneficial investment for a court will be determined by how CAT system use is integrated into a particular court's management strategies, including managing court reporting resources and transcript production procedures. In a court that does a good job of managing its reporting resources, CAT can be smoothly integrated into court operations and can be expected to achieve the intended goals of time and cost savings. In a court that either does not manage its reporting resources or does it poorly, (and most state courts fit into this category) a successful CAT operation is not likely.

CAT is not a passive technology. To be successfully implemented in a court environment, three requirements must be met:

1. Court reporters must be demonstrably committed to using CAT and using it in an efficient manner;
2. The court must actively manage and control the allocation of court reporting resources; and,
3. The court must actively manage its CAT system.

If a court assesses its operations and feels it cannot achieve all three of these requirements, then the National Center for State Courts would recommend that it not implement a CAT system.

I appreciate the opportunity of appearing before you today and welcome any questions regarding CAT that Committee Members or staff may wish to pose.

TAKING THE COURT RECORD: A REVIEW OF THE ISSUES

INTRODUCTION

A verbatim record of most evidentiary proceedings in courts of general jurisdiction, and of certain proceedings in courts of limited jurisdiction, is usually required by state constitution or statute. While the most common use of such a record is in appeals, other uses--such as trial court utilization of records of grand jury testimony, preliminary or probable cause hearings, and arraignments--are equally important. Whether the subsequent proceedings are based directly upon the transcribed record (as are most appeals¹), or whether the primary use is indirect (as for example, daily copy to aid lawyers in formulating strategies for the next day's questioning, or use of prior recorded testimony to impeach a witness at trial), the speed with which the transcript can be prepared, when needed, is of considerable importance.

Delayed preparation and delivery of transcripts is only one of many causes of intolerable delays between successive steps in the final disposition of cases. It is, however, in and of itself, such a significant factor as to have caused the National Commission on Criminal Justice Standards and Goals to recommend vigorous efforts to achieve a standard of producing a transcript within thirty days of the close of trial.² Presently, few transcripts are delivered within a month after the trial ends; indeed few are delivered within thirty days after being ordered. Research in several states has revealed that transcripts are often submitted long after statutory time limits have expired.³

In the following pages three important topics relating to the improvement of court reporting services are discussed: the establishment of management controls over reporters and the process of reporting, various technologies available for the production of the record, and the specific use of a particular technology--computer-aided transcription. Not all of the material applies to every jurisdiction, nor is it possible to provide firm answers for all the problems in any given court. Instead, this monograph should be used as a reference manual of alternative strategies to address some frequently cited and pervasive problems relating to court reporting.

This monograph is divided into three parts. The first part addresses some aspects of the reporting problem and postulates measures to alleviate them. Specific recommended standards and procedures focused on speedy production of accurate transcripts and intended for consideration at a statewide, or at least a large regional level are stated. Issues which arise at a more local level--the level at which reporters perform their recording and transcription services--are also discussed. While these recommendations are appropriate for statewide or regional standards, the implementation of uniformity in these features in reporting may require considerable time in the variety of situations presently existing in many of the states.⁴

The second part of this monograph on court reporting is devoted to a description and generalized comparison of seven distinct methods or

Note.--Footnotes appear at end of article.

techniques for making a record of court proceedings. This material is intended to acquaint judges, court administrators, and other interested parties with the range of technology available; it is not to promote a particular method, nor to unfairly criticize any technique.⁵

Part III of this monograph is a synopsis of another monograph published in 1981 by the National Center for State Courts, entitled Computer-Aided Transcription in the Courts.⁶ The full monograph details the results of a 14-month study to evaluate the cost-effectiveness of CAT and provide guidelines for its implementation and use in the state courts.

I. MANAGEMENT CONTROL OF THE REPORTING PROCESS

In many states or areas within states, there is inadequate judicial control and management of court reporting resources. The functions of making a record and transcribing that record for later use are not routinely viewed as part of the court process; rather, they are seen as matters between the parties and the reporter. The result have been delay, expense, and frustration.

The alternatives are not retention of the present procedures or the abolition of professional services; the real issue is how to improve and expedite the process. For each symptom or aspect of the shortcomings of the present systems, there may well be feasible solutions.

A. Present problems

There are many aspects or facets of the recording-transcription problem, of which delay in transcription submission is the most obvious symptom. The frequently seen features include

- shortages or unavailability of competent reporters, because of lengthy training required or low salaries paid in relation to employment outside the court or other courts in the same area.
- a mixture of court-employed and independent contractor reporters within a given jurisdiction, leading to ambiguous management controls.
- personal appointment of reporters by judges in some jurisdictions, resulting in wide disparities in qualifications and workloads among reporters of the same court.
- substantial variations in duties of reporters within a given state and sometimes within a single court (some serving as reporter-secretary or reporter-clerk).
- the refusal or failure of many reporters to use or tolerate the use of new technology for recording or transcript production caused by job security fears.
- the inability or unwillingness of courts to actively manage court reporting resources.
- the inability or unwillingness of courts to adopt time standards for transcript submission and to enforce sanctions for failure to meet time limits.

The list of problems could be extended further, but no purpose would be served by dwelling upon the shortcomings in the present situation. The purpose of this chapter is not to exhaustively document the reality and pervasiveness of the problems, but to offer suggestions for resolving some or all of the various causes of dissatisfaction with current court reporting services.

An appropriate beginning point for the discussion of avenues to improve reporting services is to state what is, in our perception, the principal objective of the courts in this regard. That objective is

TO PROVIDE FOR THE RECORDING OF ALL COURT PROCEEDINGS WHERE REQUIRED BY LAW, RULE, OR SOUND POLICY, WITHOUT DELAYING THE PROCEEDING, AND TO ASSURE THE PRODUCTION OF AN ACCURATE TRANSCRIPT OR REPRODUCTION OF THAT RECORD, IF REQUIRED, WITHIN THE SHORTEST FEASIBLE TIME LIMITS AND AT THE LOWEST REASONABLE COST.

The statement above should be read in light of the operative constraints within each court or court system. Some courts may find that relatively slight changes will satisfy the objective, while others may realize that only major changes will suffice.

Whatever the degree of satisfaction of the objective, any indication that it is not being met (or that progress toward meeting it is not being made) should give rise to corrective action. Depending on the particular situation and the administrative structure of the court system, that action may take the form of improved management control of transcript production or of court reporters' work performance, or both. Those are the subjects of the remainder of this section.

B. Management of transcript production

Despite the fact that the time consumed by transcript preparation appears to affect the time that elapses between events in a case, neither the appellate nor the trial courts generally have focused much attention on the problems of transcript preparation. A few courts have imposed standards and controls over that process.⁷ Although other courts have general rules regarding ordering transcripts (payment, filing, format, etc.), rarely are clear time limits imposed; rarer yet are examples of time limits being enforced consistently.

Poorly designed or infrequently enforced rules or statutes permit lawyers, reporters, and court clerks to disregard time limits, if any, and to attribute delay to overworked reporters, the difficult nature of transcript preparation, or even the rules or statutes themselves. Specific and clear rules are necessary for sound management of court reporting services.

Most courts, at whatever level, have the authority to promulgate rules necessary to their own procedures and operations. Such authority may be conferred expressly by constitution, statute, or a general rule of a higher court, or it may rest on the doctrine of inherent powers. The specific authority to regulate the time period for preparation of transcripts of proceedings is a natural derivative from the general powers of the courts.

Not only do most courts possess the authority to regulate or manage the transcript production process, they have an obligation to do so. Constitutional, statutory, and rule provisions aimed at a speedy, just, and final determination of all judicial proceedings are frustrated

and made meaningless by unnecessary and preventable delays in transcript delivery. Where, for example, standards and goals for disposition of cases have been fixed, they cannot be met if fairly strict limits are not imposed on the time allowed for preparation of any necessary transcripts. Continued reliance by the courts on the reporters' "self-policing" simply will not suffice.

Ideally, management of transcript production would involve three related features:

--Statewide standards and procedures for transcript ordering, production, and filing.

--Precisely defined and reasonable time limits and procedural controls (for attorneys, reporters, and court clerks) integrating transcript preparation with other related functions.

--Development of a monitoring capability to spotlight non-compliance with time limits or other standards.

1. Recommended statewide standards and procedures relating to transcripts

The rationale for uniform statewide policies and procedures should be obvious: they facilitate mobility of reporters in times of varying needs, and permit attorneys to practice and judges to serve anywhere in the state without having to fear unexpected procedural pitfalls. At the same time, reporters would not tend to gravitate away from courts having stricter controls, if to do so meant leaving the state.

The standards most clearly needed include the following:

a. Formal notice of transcript request

State notification policies are presently ill-defined or totally lacking. Since many individuals and agencies (judges, private attorneys, district attorneys, public defenders, legal aid attorneys, litigants, newspapers, etc.) order transcripts, the process should be clarified and made uniform. It is recommended that:

(1) The request for a transcript should always be written, preferably on a standard form. This should be required even if the request is made on the record itself, or the transcript is automatically furnished. The request not only serves to initiate the production of the transcript, it also is used as a monitoring or control document.

(2) Time periods dating from the completion of a proceeding should be fixed, within which period requests for transcripts would have to be filed. The time limits might vary, depending on the nature of the proceeding, but they should apply uniformly to all proceedings of a given type.

(3) The request for a transcript should be filed with the administrative judge, court administrator, or clerk of the court in which the proceeding took place.⁸ Where this is impractical, as in small courts that have no clerks or only part-time clerks, an alternate procedure (such as filing the request in the county-level court) should be detailed. In any event, the request should be treated as a formal document, however simple in format.

(4) Transcript requests should be forwarded immediately and automatically by the court to the reporter involved. A copy of the request, or a record in logbook form, should be retained by the court.

(5) Requests for transcripts should be required concurrently with, and preferably as part of, any other related notices or filings, to keep the number of steps and documents to a minimum. The best illustration of this is in appeals--the transcript request should be filed at the same time as the notice of appeal. If both are required to be filed in the same court, the request can be incorporated into the notice. Even though many appeals are abandoned after review of the transcript, combining the two functions or documents assures that both steps are completed and that related time limits begin on the same date.

(6) If the request is not made part of (or a condition precedent to) filing a notice of appeal or other action, provision should be made for situations where the request is not made within the time limit. (Such situations should be rare, but the failure to provide for them may weaken the control mechanism.) Acceptable reasons for late notice should be clearly enunciated, and sanctions imposed for unjustified delay.

(7) To insure against the reporter being unable to collect his fee for a completed transcript, any non-governmental party requesting a transcript (where a fee is permitted) should be required to deposit a fixed percentage of the estimated cost. An appropriate range would be from 25 to 50 percent, and the deposit might be made with the court clerk, the reporter, or some other designated agency.

b. Timely completion and delivery standards

The foregoing recommended procedures are designed to fix the beginning of the transcript preparation process. They will provide a central record of all requests for transcripts of proceedings in a given court. But without precisely drawn limitations on the time that the reporter will be allowed to complete the transcript after receiving the request, a record of requests will provide scant improvement. Imposition of sanctions for delay rests on both recorded starting points and clear guidelines as to the allowable period.

The following standards regarding time for completion and delivery are recommended:

(1) Rules governing the reporting and transcription process should include a system of priorities governing which requested transcripts take precedence over others. This is a complex problem, since neither the subject matter of the transcript nor the order of requests alone can be the sole determining factor in setting priorities. A formula or simple table can be developed, however, which properly takes into account the urgency of the next expected proceeding in the case, and thus establishes the appropriate time limit for completion of the transcript. Such a priority system should not be cumbersome or unwieldy. It should include

(a) a small number of categories of types of proceedings (suppression hearings, preliminary hearings, trials, etc.).

(b) a fixed standard delivery time for each category.

(c) provision for the person supervising the transcript request to assign appropriate priorities where the system does not clearly dictate a particular result.

(2) An alternative to a scheme of priorities would be the development of a workload standard, limiting the number of estimated pages of undelivered transcript any reporter could have outstanding. For example, if a reporter can consistently produce 250 pages per week of finished transcript, and the court decides that four weeks is long enough for a typical transcript, then the maximum pages of undelivered transcript the reporter would be allowed to accumulate are 1000.

(3) Probably the least desirable alternative standard for transcript delivery is a single fixed period set without regard to the nature of the recorded proceeding and of its intended use.⁹ Such a single-value standard for all transcripts ignores the variety of purposes for which transcripts are used and the range of procedural time limits for the underlying proceedings. The greatest relative advantage of such a technique is its simplicity of administration; as opposed to having no time limits or unenforced limits, it would be an improvement.

(4) Regardless of the choice of techniques for fixing time limits (i.e., varying limits according to priorities, limiting pending work to an amount which can be completed in a timely fashion, or fixing the period for transcript delivery), a fair, reasonable, and easily determinable time limit must be established. Once the request is delivered to the reporter, no ambiguity about the date the transcript is due should be tolerated.

(5) The rules for transcript production and delivery should also specify how the delivery should be made. To get it into the hands of the requesting party without delay, it is recommended that the reporter make the delivery directly. The reporter should obtain a receipt (perhaps on the original request form) and file it with the clerk or agency from whom the request was received, to clear the clerk's or agency's record of unfilled requests.

(6) Payment of the balance of the reporter's fee should be required by rule as a condition precedent to delivery of the transcript, unless otherwise agreed by the reporter.

c. Transcript format standards

The failure to establish transcript format standards in many states has resulted in a wide variety of styles. Lack of specified page sizes, type styles, and other technical standards produce wholly dissimilar transcripts.

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The following transcript features should be standardized:

<u>Characteristic</u>	<u>Examples</u>	<u>Trend or recommended standard</u>	<u>National Shorthand Reporters Association recommended standard</u>
Type size	pica or elite	elite	pica
Letters per inch	8, 10, 12	12 per inch	10 per inch
Paper size	8 1/2 x 11" (standard)		
	8 1/2 x 14" (legal)	8 1/2" x 11"	8 1/2" x 11"
Lines per page	21, 23, 25, 28	25	25
Margins (left)	1 1/2", 2", 2 1/2"	1 1/4"	1 3/4"
(right)	1", 1 1/2", 2"	1/2"	3/8"
(top)	1", 1 1/2", 2"	1"	
Use of capital letters	upper case only; upper and lower case	upper and lower case	
Indentation (Q. & A.)	none, 1 1/2", 6"	none (Q. & A. to begin at left margin); or not more than five spaces for Q. & A. and no other indentations	none (Q. & A. to begin at left-hand margin with five spaces from Q. & A. to text)
Rates (original)	per page, per folio (100 words)	per page (with a fixed number of lines per page)	per page

Setting forth recommended standards pertaining to typewritten transcripts recognizes that such a medium is and will remain the typical mode of transcript preparation for some time to come. It does not imply that original tape recordings (audio or video) cannot or should not be used for appeals or other subsequent proceedings. Such use of recordings would permit immediate appeals--as far as the record is concerned. The hesitancy of appellate judges to review taped reproductions is due largely to time constraints, i.e., the need to view or listen for five hours to a five-hour proceeding.

Techniques and devices are available to reduce such listening time, such as electronic and manual indexing devices and sound or video-compression techniques to shorten review time. However, if the appellate court desires to review all testimony by audio or videotape, the time required will be greater than that needed to read the printed transcript.

The standards and definitions of the "transcript" and "record" should be drawn broadly enough to permit use of original recordings in place of typed documents, as is done in Alaska. (In 1979 the Anchorage Superior Court produced 55,000 pages of typed transcript, but attorneys also purchased 35,000 pages of transcript on cassettes.)¹⁰

d. Transcript content standards

There are two areas respecting the content of a transcript where standards or guidelines are lacking--the definition of a verbatim record

and the specification of which portions of a given proceeding are routinely to be recorded and transcribed. Without guidelines set by the courts, substantially dissimilar transcripts can result from the same proceeding, especially in terms of the length of the transcript.

Some persons insist that a definition of a verbatim record is impossible. Even if that position were well-founded, it should not preclude some effort by the appellate courts to set general limits on the discretion of reporters to edit the actual words of judges, counsel, and witnesses. Such editing may be desirable, since omission of false starts, rewording of ungrammatical statements, deletion of expletives, and referencing nonverbal behavior may aid the reader in understanding what occurred in the recorded proceeding. At the same time, unlimited discretion to polish or smooth out the transcript according to the reporter's individual taste creates the risk of unintentional distortion of the record. Since the whole case may turn on somewhat subtle shadings of language, standards should be imposed which confine reporters, as strictly as feasible, to the precise language used. Therefore the appellate courts should promulgate general rules regarding

--Revision of statements: ungrammatical statements or use of slang by judge, lawyers, or witnesses.

--Deletion of words or statements: false starts, "uhh's," or meaningless repetitions.

--Nonverbal behavior: gestures, nodding or shaking head, laughing, lengthy pauses.

--Simultaneous speech: priority given to which speaker when recording statements and what reporter is to do when speaker(s) cannot be heard or understood.

Beyond the question of the extent to which the transcript should include every word or gesture of the participants, there is the further issue of routinely recording or transcribing certain aspects of a trial or proceeding. Parts of trials which rarely give rise to appeals or which are seldom the subject of later review should be recorded only by special request, and even if recorded, should not be transcribed unless specified. Some examples are

--voir dire examination of jurors.

--opening and closing statements or arguments of counsel.

--the reading into the record of lengthy documents, where the document or reproductions can be inserted in or appended to the transcript.

e. Transcript fees

One of the most complex issues, and probably the most controversial one relating to court reporting, is that of charging of fees for transcripts. Court reporters are normally paid a base salary by the court, and obtain additional income by producing and selling transcripts of court proceedings to private litigants or non-court public agencies.

This salary plus fee arrangement, despite its wide use, has unfortunate consequences for both the efficient use of reporters and the ultimate goal of equal justice for all economic classes. The fee system for transcripts

--tends to support the assertion that the reporter's base salary covers only taking the record in court.

--reinforces the view that the notes or recording of a proceeding are the personal property of the reporter.

--may encourage the reporter to demand or a litigant to offer the payment of a premium for advancing (or delaying) the transcript preparation.

--may discourage or even prevent appeal or other review of the proceeding at the instance of persons just above the level of indigency.

--may result in speedier service for retained attorneys than for public defender, legal aid, or prosecution attorneys where transcript fees charged private litigants are not regulated or are fixed at a level higher than those for public agencies.

Some of these problems will be treated elsewhere in this monograph, either through explicit recommendations, or as part of a more general discussion. The time has come, however, for the judiciary to examine the traditional transcript fee system per se and decide whether it serves the best interests of the court, the litigants, and the public. Where the fee system is found wanting, alternatives should be examined.

The arguments in favor of the fee system can be placed under the following three heads:

--the fee system supplies an economic incentive to complete the transcripts expeditiously, since the reporter's payment is withheld until then.

--the fees compensate for the extra effort and time (and sometimes expense to the reporter) in transcript production.

--the demand for transcripts is so uneven and uncertain that no straight salary system would be feasible, even if the courts could raise salaries to replace the income lost to reporters.

There is some merit to these arguments, and they cannot simply be ignored. This does not mean, however, that the fee system cannot or should not be tempered or revised over a period of time. The suggested advantages of or needs for the fee method might be replaced by

(1) reasonable and fairly enforced deadlines for transcription which require the reporter to complete transcripts expeditiously.

(2) the hiring of enough reporters or the adoption of suitable reporting methods to permit the production of most transcripts during ordinary working hours.¹¹

(3) an analysis of the variation in transcript demand, and a fair apportionment of the burden among the reporters, so as to prevent windfalls.

Another less direct but still important long-run advantage in revising the fee system lies in integrating reporters more fully into the court staff. All other court personnel and persons (such as marshals) performing court-related services are increasingly being paid a salary,

rather than being compensated on a case fee basis. Revision of the fee system could increase the court's control over reporters and their work product, and reduce the appearance and the existence of divided loyalties.

The pervasiveness of the transcript fee system makes its revision an enormous task. Alternative technology for taking the record exists, however, and is cost-effective, challenging the immutability of traditional methods. Proposals which advocate a sudden, total elimination of transcript fees should not be taken seriously. The fee system can, however, be modified over time to ease the burden of transition on both courts and reporters as follows:

--The "sale" of transcripts to public agencies can be taken over by the court, with the revenues going to increased salaries for reporters, leaving the fee relationship for private parties undisturbed for a time.

--Instead of allocating budget funds to various agencies for transcript purchases, those funds should be added to the court budget, and used to replace the reporters' fees.

--When proper management and monitoring controls have been implemented and utilized long enough to generate sufficient information, the "sale" of all court transcripts should be handled by the court, and the revenues used to support increased reporter base salaries.

--Additional budget funds should be obtained by the court, if cost reduction measures and court receipt of fees do not provide a fair and equitable salary level for reporters.

Other aspects which should be carefully explored are the relation of fees, however they are fixed, to actual or minimal costs of production and the customary allocation of the fees among transcript purchasers. While there are departures from the pattern, fees ordinarily are set at a fixed rate, regardless of the technique used by the reporter. The first (original typescript) copy is billed at a relatively high rate, with considerably reduced rates for additional carbon copies. This combination tends to encourage delayed ordering of transcripts, so as to get a copy at reduced price, and imposes an unfair burden on one party for the same product. Furthermore, the number of legible copies which can be produced with one typing is limited; and the correction of typographical errors on multiple copies is another source of delay.

As a means of reducing transcript costs to purchasers, expediting multiple-copy production, and equitably distributing the cost among purchasers, the following procedures should be considered:

--the reporter should be paid (by salary or fee) for producing the original typewritten transcript only, with all additional copies made on a court-owned photocopy machine and billed at actual cost.

--the total cost of the original and the photocopies ordered should be allocated equally among the transcript recipients.

Elimination of the outdated and unnecessary carbon copy feature should expedite transcription. The photocopies, which are almost universally acceptable for legal purposes, can be produced quickly, in uniform quality and unlimited number. Using photocopies, the price of

second and third copies of a transcript (which is the typical order) could be reduced by two-thirds or more.

f. Ownership of original notes or tapes

To remove or reduce any confusion, the statewide rules should clearly specify that the reporter's original notes or tapes are the property of the court. Since the reporter is (or should be) a court employee, and the notes or tapes are produced in the course of his or her official duties, the assertion that the reporter owns the original recording is misplaced.

The reporter may need the use of the material to perform the transcription, but this neither requires nor implies ownership. Just as a court clerk prepares and uses court documents without any question of ownership arising, so should the court reporters create and use notes or tapes without asserting or feeling any ownership interest.

2. Monitoring and enforcement of transcript production standards

The labor and time spent in preparing specific standards will have been in vain if there is not a conscientious effort made to monitor compliance with those standards and to establish and enforce a fair but firm system of sanctions for noncompliance. Indeed, there are some jurisdictions which have statutory time limits at present, and research has shown that in those jurisdictions where sanctions are enforced, transcripts are submitted within the time limits specified. In those jurisdictions where time limits are not enforced, the delay in transcript production can be said to be partially a failure of judges or court management to utilize a tool ready at hand.

Management of the transcript production process, like any other control function, must begin with the gathering of information. This data gathering function should be:

- simple
- inexpensive to operate
- integrated as much as possible into the underlying process
- used for as many purposes as possible

The transcript monitoring procedure will almost necessarily have to take place at two levels--the trial courts and the appellate courts. Each court has its own needs; neither usually is suitably located or staffed to monitor all transcripts. But this division of responsibility need not give rise to conflict, confusion, or inconsistency of enforcement.

The division of supervision should be incorporated into the design of the statewide standards, and the particular monitoring methods and enforcement strategies detailed at that level.

a. Trial court monitoring of transcript production

Monitoring of the status of transcripts should be done initially at the trial court level by the person receiving the requests for transcripts. Some estimate of the amount of transcript on order but not completed by each reporter should be made every two weeks, if not more frequently. This report should be given to the administrative judge or court administrator. To the extent feasible, assignment of reporters to

additional proceedings, or to functions of varying complexity, should be made according to their current backlogs of uncompleted transcripts.

Where the backlog analysis reveals that any reporter has slipped beyond the established time limit for any transcript, a report of the violation, together with any explanation of the delay (such as illness or other emergency), should be made to the appellate court or relevant judicial administrator. This report of delayed transcripts will give the court policymakers a better insight into potential problems with reporting services. At the same time, reporting only exceptions to the time limit rules will minimize the burden both in preparing the report at the local level and in utilizing the report at the higher level.

To implement such a system, building upon previous recommendations, would require

- a formalized, centrally filed written notice of transcript requests
- an estimate of the length of each transcript
- calculation of the appropriate time limit for each transcript (whether a uniform number of days or based on the nature or length of the proceeding, etc.)
- sorting or listing requests by reporter name
- some method of updating the inventory of pending transcripts when each is completed

b. Monitoring of appellate transcript production

The task of monitoring the production and delivery of transcripts needed for appeals should be the responsibility of the appellate court (usually the clerk or administrative staff). This function should be accomplished as an integral part of the larger process of tracking the progress of the appeal itself. Unless the other events and actions leading to argument of the appeal are subjected to the same supervision as the transcript preparation, the goal of expediting the appeal will not be accomplished.

For this reason, the following discussion goes somewhat beyond the narrow subject of transcript time standards, but only far enough to depict the transcript tracking as a component of the larger management process. A complete discussion of expediting appeals is beyond the scope of this monograph.¹²

Clear and realistic standards are needed not only throughout the court reporting process, but they should also be formulated regarding the appellate process and disseminated. The major defects in the present process can be addressed by

- precise definitions of significant events or tasks
- formulation of specific time limits for completion of the tasks
- allocation of responsibility for tasks to all persons involved (which may include trial judges, trial court clerks, reporters, attorneys on appeal, and appellate court personnel)

--establishment and enforcement of sanctions for unjustified failure to comply with deadlines

The appellate information system, like its trial level counterpart, should be relatively simple and straightforward. The following information should be collected to monitor both the transcription and appeal process:

- (1) Case identification--title and trial court case number
- (2) Type of case--civil or criminal (and subject matter)
- (3) Trial court
- (4) Trial judge
- (5) Attorneys on appeal--all parties
- (6) Court reporter(s)--name, address, and telephone number
- (7) Final trial court disposition--date
- (8) Notice of appeal filed--date
- (9) Transcript request filed--date (if not combined or simultaneous with notice of appeal)
- (10) Transcript filing deadline--date (as determined by statute or rule, or revised date if extension granted by appellate court)
- (11) Transcript filed or delivered--date and number of pages
- (12) Filing of other case materials with appellate court--dates (description of specific steps, such as filing exhibits, briefs, etc.)¹³

c. Analysis of transcript production

The potential benefits of accurate recordkeeping with respect to the transcript production process do not end with identification of certain transcripts as untimely, or even with the imposition of sanctions on reporters for failure to meet the deadlines. The data recorded, at either level, should be analyzed to permit focusing on existing problems, avoiding future crises, and projecting further improvements in transcript production.

The data recorded in the monitoring systems should be tabulated and analyzed to

--determine the time interval (delay) associated with transcript preparation

--isolate the delay experienced in particular courts, geographical regions, types of cases, reporting techniques, etc.

--assess delay in transcript production as compared with other causes or types of delay in the trial court or appellate process

A second analytical step should be performed. In addition to the treatment of court reporting or transcript production as a unitary function, several comparative and statistical analyses should be performed:

--a comparison of transcript production

- between civil and criminal cases (and case types, if desired).
- among districts, regions, courts, reporters, etc.
- by length of proceeding, and of transcript size.

--A comparison of the current period's transcript production with historical equivalent periods.

--A comparison of the number of delinquent transcripts at the time of the analysis with the delinquency percentage in comparable prior periods.

--A comparison of

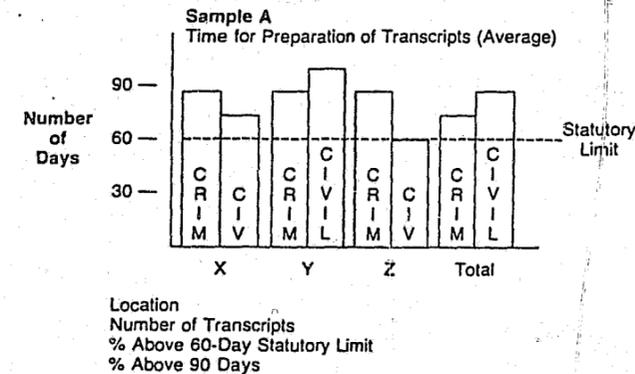
--the time required or used to prepare transcripts--mean and median number of days; percentage of transcripts prepared by day-groups (1-15, 16-30, etc.).

--the percentage of cases of delinquent transcripts and identification of reasons for delay; percentage where extensions are requested.

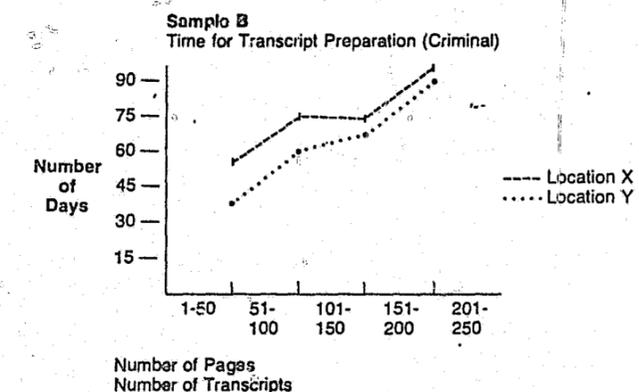
--number of transcripts and total pages produced; highest, lowest, and average pages produced per reporter.

The following samples of analysis tables depict some possible uses of the foregoing information relating to the monitoring and assessment of transcript production.

Analysis of Transcript Production Sample Charts and Figures



Source: Greenwood and Dodge, Management of Court Reporting Resources



Sample C
Delinquent Transcript Listing*

Case #	Case Title	Order Date	Original Due Date	Est. Pages	Requesting Party	Revised Due Date	Completion Date	No. of Pages
--------	------------	------------	-------------------	------------	------------------	------------------	-----------------	--------------

Court A
Reporter 1
Reporter 15

Court B
Reporter 22

*Courts can expand this listing to include all transcript requests.

Source: Greenwood and Dodge, Management of Court Reporting Resources

d. Sanctions for failure to deliver transcripts

Unless some penalty is imposed upon court reporters who willfully fail to meet time limits for transcript delivery, the time limits are meaningless. The penalties need not be severe, but they must be relevant, and they must be enforced.

Reporters are not singled out as particularly in need of sanctions. Many will willingly comply once a standard has been announced, and more will meet the standard when they are convinced that records are being kept of their performance. But there may well be some reporters who will test the determination of the courts to enforce any restriction, rule, or policy.

The questions of the circumstances under which penalties are to be exacted, the appropriate sanction to be imposed, and by whom it is to be imposed do not admit of resolution here. It seems clear, however, that penalties should escalate the longer a given transcript is delayed, or the greater the number of delinquent transcripts due from a single reporter.

It is assumed that court reporters are subject to all the customary employee disciplinary measures, ranging from informal prodding to removal from office. Further sanctions, unique to reporters, include such measures as

--where possible, removing the delinquent reporter from further courtroom assignments (thereby depriving the reporter of some potential fee-earning cases), and requiring the reporter to pay the salary of a substitute reporter assigned to fill in.

--reducing the fee for a delayed transcript as time goes on.

--permitting an aggrieved party to institute a summary show cause action to compel the reporter to complete the transcript or be held in contempt.

C. Trial court management of reporter work performance

In the preceding section, the frame of reference was the state or multicounty level, and the purpose was to recommend the adoption of uniform standards for transcript production. The purpose of this part is to describe some of the present problems within a given court or locality and to present recommendations for the day-to-day management of reporters

as court employees or as necessary support personnel. To some extent the prior discussion revolved around the question of the output from the reporting process; the ensuing material focuses more directly on the process itself. The two parts are closely related and some repetition will be found. Yet it is in the trial courts that the standards will have an impact, if any is to be felt.

1. Recommended management controls

In many courts, reporters enjoy the advantages of court employment--such as the security of a salary--without any of the routine and appropriate controls imposed on other court personnel. Few courts regard reporters as employees in the same sense they do the clerks, attendants, etc. This is partly due to the training, salary, and professional nature of the reporters' function.

Assertion of proper and adequate management controls over reporters, from hiring to evaluation, does not detract from their professional status. It is in recording, transcribing, and certifying the record of proceedings that the reporters' professionalism comes into play--not in being a privileged or autonomous class of public employees.

Given the variety of staffing patterns among courts, even within a "unified" system, it is at the local level that such aspects of the reporting function as job descriptions, personnel selection, assignment, method of compensation, and performance evaluation usually must be handled. Where uniform treatment is feasible, by higher court rule or statute, that avenue should be taken. Regardless of the scope of possible uniformity, effective management of court reporters requires some or all of the following steps.

a. Job descriptions for reporters

The roles of court reporters range all the way from being independent contractors paid on a per diem basis and performing no other court functions to being combination reporter-court clerk-secretaries. A rational management system for reporters must start with a fairly clear description of the duties of the reporters in a particular court or jurisdiction. Such description should specify what is required of the reporter with respect to

- the variety and nature of proceedings to be recorded
- preparation of official transcripts
- clerical or administrative duties, if any
- secretarial duties, if any
- custody of exhibits or other court documents
- general priority of different duties
- estimated time allocation for different duties
- routine employment policies, such as vacation, sick leave, dress code, etc., as appropriate

The job description should not be overly specific, or it might create as many problems as it resolves. The reporter must understand that the conduct of a proceeding in court, including specific directions to or

regarding the reporter, is largely within the discretion and control of the judge presiding. Therefore, some flexibility should be designed into the job description.

Merely analyzing the expected performance of reporters and reducing it to written form may highlight areas of possible improvement in transcript productivity. When compared with actual practice, it may be discovered, for example, that the amount of a reporter's time being absorbed in handling judges' correspondence is much greater than supposed by court management. This in turn might lead to a separation of the reporting and secretarial functions.

b. Selection of personnel

If the court reporter or equipment operator is unable to obtain an accurate record at the trial or other proceeding, no transcription technique or other technology will produce an accurate transcript for subsequent use. Thus, the capability of the reporter/operator is critical to the entire process of producing a usable record of the proceeding.

A statewide or multi-jurisdictional job-entry examination or certification process helps to ensure competent personnel. Such programs have been criticized on several grounds, including

- manipulation or control by current job occupants
- expense of operation
- failure to measure relevant skills
- limitation of alternative techniques or applicants
- absence of performance standards after licensing

While such problems do occur in states with certification programs, they can be eliminated or reduced to tolerable limits if the judiciary—not the executive branch or the court reporters association—establishes and controls the certification process.

In courts with some degree of centralized administration, statewide or regional examination and certification procedures may be established without involvement of the legislature or the executive. An appellate court or state court administrator, or his regional counterpart, should establish a certified court reporter position, as distinguished from a certified shorthand reporter system. The broader title is intended to expand the range of acceptable techniques to encompass the testing and certification of any technique or process which provides an acceptable, timely, and accurate record.

The examination program should test and rank the candidates according to the job skills necessary to report and transcribe the court record. While formal academic or technical schooling may be desirable, persons with such training should not be exempted from the examination, nor should persons without it automatically be disqualified. Appropriate reporting skills—not just technical schooling or personal references—must be demonstrated.

Ability and achievement examinations should correspond to the reporting technique to be used, and this range should include any technique acceptable to the court. The skills assessed should pertain to

the reporter's ability to produce a high-quality transcript of the record of proceedings in a rapid and efficient manner. It is not necessary to develop a unique examination for each technique; the same basic test can be used for all candidates. If electronic equipment is used, candidates should be tested for ability to operate and for basic knowledge of the equipment.

The functional skills relevant to court reporting can be classified into three categories:

Category 1. Court reporter who must personally make a record in court on paper or magnetic tape using either own fingers or voice, e.g., manual shorthand, stenotype, stenomask, Gimelli voice-writer.

Category 2. Court reporter who primarily operates and monitors electronic recording devices, e.g., multi-track audio recording and videotape.

Category 3. Transcriber-typist who types the final transcript. Listed below are recommended skill or achievement tests. The same test can be administered for all reporting techniques requiring the specific skill.

Reporting Skill or Achievement	Reporter Category
Speed of Recording Testimony	1 & 2
Subtests:	
(A) Question and Answer Interrogatory 200-225 words per minute (wpm)	
(B) Opening or Closing Statement or Jury Charge 200 wpm	
(C) Medical Testimony 175-185 wpm	
Each subtest should be from 5 to 10 minutes in length.	
Speed of Transcription Individual given 30 to 45 minutes to transcribe each subtest	1, 2 & 3
Accuracy of Transcript Question and Answer Interrogatory 97%, Other subtests 95%	1, 2 & 3
Language Skills	1, 2 & 3
Spelling	
Grammar	
Punctuation	
Court Practices and Procedures	1 & 2
Knowledge and Operation of Equipment	2
Ability to Locate and Read Back Testimony in Court	1 & 2

A number of other policy questions such as a probationary or break-in period for new reporters, the establishment of grade levels for reporters, advancement to more complex matters on proof of increased proficiency, and certification of reporters for service in all courts within a given area fall outside the scope of this document. They should, however, be fully explored and resolved as part of a comprehensive certification program.

c. In-service training

Demonstration of the minimum level of competency on an appropriate test is the beginning, not the end, of the reporter's training. As court procedures change and become more complex, the courts should provide reporting personnel with in-service training.

Two methods can be introduced:

(1) Preparation and distribution of an official court reporting procedures manual, which would include all pertinent policies, rules, procedures and forms relating to record and transcript preparation, reporters' duties, etc.

(2) Court-sponsored training seminars covering such topics as changes in reporting rules, procedures, and policies; new reporting technologies and transcription techniques; legal, medical, or technical terminology; and court procedures and practices.

A manual should cover most of the issues raised in this booklet. It is recommended that the manual be prepared in loose-leaf form to facilitate updating. A joint court management-reporters committee should be formed to produce a first draft, to ensure that the manual include answers to questions the reporters find themselves facing, as well as performance standards the judges or court administrator find necessary. In any jurisdiction using or anticipating the use of audio or video recording equipment, monitoring and index logging procedures, equipment standards, and playback and transcribing procedures should be specified in the manual.

d. Utilization of reporter personnel

The trial court administrator or administrative judges must be given a certain amount of discretion and flexibility concerning the daily assignment of court reporting personnel. Any policy or practice that results in judges having to wait for a reporter/recorder before commencing a proceeding should be subjected to careful scrutiny. Few courts, however, have undertaken court reporter manpower studies to assess reporter productivity and revise reporter assignment policies to achieve maximum reporter and court productivity.

The traditional one judge/one reporter policy--a reporter working permanently for the judge who appointed him/her--still prevails in many courts. However, this approach needs to be reexamined in multi-judge courts since it often results in poor manpower utilization and inequitable distribution of workload among court reporters. Some of the undesirable consequences of this practice are

--artificial constraint on court productivity, when available reporters sit idle instead of filling in for ill or hard-pressed reporters.

--possible long-term inequities in the distribution of relatively easier transcript fee-producing cases.

--imbalance between recording and transcribing functions of reporters, depending on nature of proceedings assigned to the judge. For example, if the judge has several long trials in succession, followed by a period of non-transcript matters, the reporter will probably fall far behind in transcribing and then get caught up. This may result in periods of serious transcript delay.

--disparities in duties among reporters, because of differing expectations of judges.

--an appearance to litigants and the public that the reporter is not an objective professional, but may be under the influence of the judge with respect to the contents of the record.

In multi-judge courts or districts, improved reporter manpower utilization strategies, such as a "pool" operation or a "rotation" system, should be employed in order to equally distribute the workload and decrease the time required to produce transcripts. These approaches minimize or eliminate the disadvantages of the one judge/one reporter system and permit the court to realize the maximum court and transcript productivity from its existing reporter manpower and reporting technology. Indeed, it is only when such assignment techniques are used for a period that the determination of the need for more reporters or improved reporting methods can be made on a firm foundation.

Under the "pool" approach to reporter assignment, reporters are not permanently assigned to a particular judge or part of court, but are assigned on the basis of court-related¹⁴ work backlog. The determination of pages to be transcribed obviously need not be precise, since the purpose is to strike a rough balance. A court choosing this method of assignment might find it useful to designate (or to permit the reporters to select) a senior or "administrative" reporter to make the actual assignments, subject to disapproval by the judges or court administrator.

The rotation on a periodic basis of reporters among judges or parts of court tends to even out courtroom and transcript demands. Of the two approaches, the rotation system usually is the less efficient, for several reasons, including the following;

--Reporters usually are rotated strictly by calendar, even in the middle of a proceeding, thereby creating some division of responsibility for the transcript of the proceeding; or at the end of a proceeding, which may not correspond with another reporter's availability. This problem can be overcome by a sufficiently flexible supervisory system.

--The assumption that rotation equalizes the workload may prove false in practice, at least for substantial periods of time.¹⁵

--Unless the period of rotation is quite short (weekly, for example), it is difficult to use effectively any number of reporters greater than the number of judges. However, the shorter the period of rotation, the greater the problem described in the first item above becomes.

On balance, then, the "pool" approach to reporter assignment is recommended since it provides for the assignment of the least backlogged available reporter on an "as needed" basis to the judge or part of court requiring a reporter. Ideally, the court will have available to it (either on staff or from commercial reporter services) a number of reporters slightly in excess of the number of judges using reporters. The "pool" technique, properly applied, will identify the most seriously backlogged reporters and free them of courtroom assignment, to work on transcripts.

As compared with the one judge/one reporter approach, both the pool and the rotation assignment methods seem markedly superior. Nearly all courts which have implemented these techniques have increased reporter efficiencies, lowered court reporting costs, reduced inequitable reporter workload patterns, and reduced transcript delays.

e. Compensation of reporters

The salaries of reporters and supporting personnel comprise a substantial portion of the cost of reporting services. These funds are frequently raised by the local unit of government by inclusion in the court budget. As a significant budget item, these amounts should be monitored and subjected to appropriate expenditure or fiscal controls.

The issue of imposing or allowing fees for the production and delivery of court transcripts has been addressed earlier. The related question of reporters' free lance work opportunities should also be considered since it bears on the general topic of compensation of reporters and adequate management control.

To allow full-time court reporting personnel to undertake free lance reporting can be troublesome, since unrestricted permission to do so may conflict with the reporter's responsibility to the court. At the same time, the task of particularizing the limits of free lance work so as to avoid ad hoc rulings may be cumbersome. Some opportunities for free lance work may be so remote from any court interest as to be prohibited (such as private conferences); others are not so remote (e.g., reporting of pretrial discovery proceedings provided as a matter of right; recording of arbitration hearings which reduce court trial burdens).

Where non-court reporters are unavailable, prohibiting court reporters from involvement in executive or legislative branch proceedings, such as administrative or legislative hearings, may not be in the court's best interests, since these branches influence or dictate court budgets.

With these cautions and considerations in mind, the court should establish appropriate controls or restrictions over free lance reporting, at least with regard to

--hours of day when it is permissible

--maximum transcript backlog permitted for reporter to be allowed to accept free lance work

--what types of free lance work will be allowed

--what court official must give permission, generally or in the event of a question

f. Storage and retention of records

The trial court will almost always be responsible for the proper storage and retention of the original shorthand notes or electronic tapes. Considerations of storage space and access by reporters virtually dictate this choice. The trial court should be charged with ascertaining that a complete record has been made and establishing procedures for the preservation, indexing, and ultimate destruction of these materials, within the general statewide guidelines.

Policies should be established regarding the length of time the reporter should personally retain notes or tapes where no transcript has been requested.

Where a transcript has been ordered, the reporter obviously needs the notes or tapes, where the transcript has been completed and certified, the notes or tapes should be turned over to the court at once. A limit of six months for retention of any notes or tapes by reporters should be

adequate in virtually all cases, if the time limits for requesting the transcript are enforced.

Similarly, the trial court administrator or clerk should be authorized to destroy the notes and tapes routinely after a fixed storage period. Where a transcript has been made and certified, and has not been challenged as incomplete or inaccurate, the storage period can be fairly short. Destruction of untranscribed notes or tapes, at least in civil cases, should be authorized when the burden of storing is clearly greater than their value.¹⁶

2. Evaluation of work performance

Much of the performance of court reporters must be managed, monitored, and evaluated at the trial court or district level. Measuring transcript productivity only, as vital as it may be, ignores such factors as reporting or record-taking where no transcript is ever made and other duties of the reporters. With respect to these aspects of the reporters' performance, standard management techniques should be applied to reporters just as they are or should be to other court employees.

a. Time sheets

Reporters should be required to submit time sheets not only indicating days or hours worked in gross terms, but also breaking down the work periods between recording proceedings and transcript preparation and showing pages of transcript produced. This information may be useful in comparing the efficiency of reporters, in balancing workloads among reporters, and even in analyzing possible changes in needs for reporters in some types of proceedings. If the time sheets periodically reflect each reporter's inventory of pending transcript requests, they can be used to supplement the transcript reporting systems.

b. Reporter income statements

As part of the time sheet system, or in addition to it, a confidential statement of all outside income from reporting activities should be required of each reporter. These statements, presently required by the federal and some state courts, aid in determining total court reporting expenditures, negotiating salary and transcript fee changes, and allocating workload among reporters. They also help detect abuses by reporters of limitations on free lance work or of maximum transcript fee schedules, if any.

II. COURT REPORTING TECHNIQUES

A. General background

The use of modern technology has been recommended as a possible way to improve and expedite the recording or transcription process. Both the American Bar Association and the Courts Task Force of the National Advisory Commission on Criminal Justice Standards and Goals have advocated technological innovations. The ABA has taken the following position:

The record on appeal ... Continuing efforts should be exerted to improve techniques for the preparation of records for appeals. Methods should be adopted that will minimize the cost of preparation in terms of money and time ... Developing technology should be watched;

and, as promising new processes are perfected, they should be accepted as soon as they provide more rapid and efficient preparation of records.¹⁷

While some are viewed as experimental, the seven reporting techniques discussed in the next section have been used and legally accepted in some state courts. All have proven technically feasible, although further refinements and improvements may be made in some of the very recent ones.

B. Description of techniques

At least seven methods now exist for the production of a transcript. Some parts of the process (from words spoken in court to final typing on paper) are common to two or more methods, but the variance in other parts of the process requires that they be separately discussed.

Several of these methods have been in use for many years, but the remainder depend on new technologies or are refinements of the older methods. This section presents brief descriptions of the techniques with advantages and disadvantages. Material bearing on the comparison of techniques, and on factors which should influence the choice of a technique for a particular court or situation, appears in the following section.

1. Manual shorthand

Manual shorthand is the oldest court reporting technique and is still in use, although few new reporters are being trained in its use. A court reporter manually records a proceeding by graphic symbols representing phonetic speech. The reporter must transcribe his shorthand notes by either direct typing--translating his notes back into words and personally typing the transcript--or dictation--translating the notes and dictating them onto an audio record or tape which is given to a typist who produces the transcript.

Its major advantages are as follows:

- The reporter can readily read back any portion of the record in court.
- A record can be taken any time or place needed.
- No mechanical or electrical equipment is required.

Its major disadvantages are

- Heavy reporter involvement is needed in the transcription process.
- Reporter hand fatigue may interrupt proceeding.
- The accuracy of the record is totally dependent upon the reporter's skill.
- The notes are unintelligible to the judge, counsel, or most other reporters.
- Personnel salaries and transcript rates are high.

2. Machine shorthand (stenotype)

A stenotype reporter records court proceedings by striking a combination of keys which represent phonetic speech sounds, on a special keyboard (stenotype machine). The imprint of the keys is recorded on a paper tape by an inked ribbon. The reporter transcribes the notes on the tape by one of four methods: direct typing from the notes; dictation onto tape or disk for a typist; note reading--another individual reads the reporter's stenographic notes and types the transcript; or computer-aided transcription.

The stenotype method is presently the predominant court reporting method, particularly in trial courts of general jurisdiction. The state of satisfaction or dissatisfaction with reporting services in most court systems reflects, to some extent, the effectiveness and limitations of the stenotype method as currently practiced and managed.

Its major advantages are as follows:

- Judges, attorneys, and court personnel are accustomed to this method.
- The reporter can readily read back any portion of the record in court.
- A record can be taken any time or place needed.
- Stenotype notes can sometimes be translated by other stenotype reporters or notereaders.

Its major disadvantages are

- Reporter involvement in the transcription process is heavy. (An estimated 95% of the stenotype reporters use either direct typing or dictation transcription methods; the CAT Analysis Project study found that the average reporter spent 4.94 hours preparing 40 pages of transcript if typing was done by the reporter, or 2.36 hours dictating 40 pages for a typist and then proofreading.)
- The accuracy of the record is totally dependent upon the reporter's skill.
- The notes are incomprehensible to the judge and counsel and often to other reporters.
- Personnel salaries and transcript rates are high.
- The technique requires extensive training time, averaging over two years.

3. Computer-aided transcription

This method is a recent improvement on the widely used stenotype approach. The reporter uses a modified stenotype machine which electronically records the symbols on a magnetic tape. The symbols are fed into a computer which translates them back into words, which are displayed on a cathode ray tube. After editing by the reporter or a scoper or notereader, the transcript is rapidly typed by the computer.

While this might be viewed as an alternative transcription technique for stenotypists, it should be regarded as a distinct reporting

method, due to specialized equipment, reporter training, and administrative procedures. It holds great promise for improving transcript productivity of stenotype reporters.¹⁸

The major advantages of computer-aided transcriptions are as follows:

- The traditional method of taking the record, to which judges, attorneys, and other court personnel are accustomed, is not altered.
- The reporter can readily read back any portion of the record from the paper notes.
- Transcript production is rapid.
- Typists are eliminated, reducing possibilities for errors.
- The record can be taken at any place or any time.
- A reporter's notes can be translated on the CAT if the court has a copy of the reporter's dictionary as well as the cassette containing the shorthand.
- Minimal reporter time is needed for transcript process; once a reporter is skilled on CAT, the transcript can be made directly from the tape, with further reporter involvement restricted to proofreading time.
- Standardized transcript format is more likely than with manual typing.
- The court can control the transcript production process if it owns the CAT system.

Its major disadvantages are

- Initial investment in equipment and supplies is heavy, and on-going operating costs are substantial.
- Reporters who do not write clean notes in a consistent style have difficulty on CAT.
- Accuracy of the record is totally dependent upon the reporter's skill.
- Personnel salaries and transcript rates are high.
- The technique requires an extensive learning period for reporter (3-8 months).
- Notes are incomprehensible to the judge and counsel, although a draft (unedited) translation may be comprehensible.

4. Stenomask

A stenomask reporter using a single-track audio recording machine repeats the words spoken in the courtroom into a microphone encased in a soundproof mask which prevents the reporter's voice from being heard. The transcript can be typed directly from the audio record by either the reporter or a typist.

Though widely used in the military services, this method has not enjoyed wide use in civilian courts, largely because of the lack of stenomask schools and of proficiency standards.

Its major advantages are as follows:

- The recording can be understood by anyone.
 - The transcript can be made directly from the original recording, without further reporter involvement.
- Its major disadvantages are
- The accuracy of the record is totally dependent upon the skill of the reporter.
 - Personnel salaries.
 - The capability of recording simultaneous speech is quite limited.

5. Gimelli voice-writing

The Gimelli voice-writing technique is an adaption of the stenomask method. The voice-writer (reporter) whispers (since he uses no mask) into the microphone of a multi-track recording machine the words as they are spoken in the courtroom. The voice-writer's words are recorded on one channel of the tape, while the voices of the participants are simultaneously recorded on other tracks. The voice-writer's spoken recording can be typed by him or her, or by a typist. The courtroom audio record serves as a means of verification. Either the direct courtroom recording or the voice-writer's dictated recording can serve as the record for subsequent use, if desired.

Unlike the stenomask method, a formal training program has been developed and evaluated for Gimelli voice-writing.

The major advantages of this method are as follows:

- Reporter can be rapidly trained to high proficiency levels.
 - Reporter has limited involvement in the transcription process.
 - The reporter's record can be verified by comparison with actual testimony.
 - The court controls transcript production, since typists can transcribe immediately (even during the proceeding).
 - The original record can be readily understood by anyone, or used for subsequent proceeding.
- Its principal disadvantages are
- Reporter salaries are high.
 - Record cannot be easily taken outside of the courtroom.
 - Equipment malfunctions are possible.

6. Audio (multi-track) recording¹⁹

An audio record of court proceedings is made by direct recording of participant voices over multiple microphones. The use of a multi-track recorder permits better identification of speakers and separation of simultaneous statements. A court reporter or court attendant monitors the recording and prepares a log indexing various events and identifying speakers in the proceeding. A typist can transcribe from the audio record; or the recording together with the log of events can serve as the record on appeal.

The installation of high-quality multi-track recording machines, specially designed for court proceedings, has resolved most of the problems associated with single-track recording.

The major advantages of this method are as follows

- The recording can be understood by anyone.
- The accuracy of the transcript can be verified against the original recording.
- The transcript can be made directly from the original recording, without further reporter involvement, or the recording itself can be used as the official record.
- Accuracy is not dependent on a reporter's skill.
- This is the least expensive reporting technique.

Its major disadvantages are

- Playing back proceedings in court and speaker identification may cause some difficulty.
- Transcript production rate is slower in terms of pages typed per hour.
- Fairly sophisticated electronic equipment is needed, with the possibility of equipment malfunctions.
- The record cannot easily be taken outside the courtroom.

7. Video recording

A video record is made by electronically recording the participants' voices and pictures onto a videotape by means of cameras and microphones. Either a video operator-reporter or a typist can prepare a typed transcript from the audio portion by running the tape.²⁰

Video recording has been used to record

- actual trials
- pretrial proceedings, such as confessions, lineups, and interrogations
- depositions, including those of expert, unavailable, or incapacitated witnesses
- exhibits for playback at trial

Some of these applications, such as video depositions, have been readily accepted, while others, such as prerecording an entire trial (except for opening and closing statements and the charge to the jury), have had limited use and have caused substantial controversy among the judiciary and court reporters.

The advantages of video recording are as follows:

- A truly life-like reproduction of the proceeding, including "demeanor evidence," can be made.
- Transcription of the record can be
 - eliminated in some situations, by playing back the original videotape on monitors.
 - begun immediately (even during the course of the proceeding) by a typist with play-back equipment.
 - verified by comparison to the original videotape.
- The recording is comprehensible to anyone who can operate the play-back machine.
- Accuracy of record is not dependent on the reporter's skills.
- Reporter (operator) costs are reasonable.

The major disadvantages are

- Initial equipment costs are high.
- Sophisticated electronic equipment is needed, with the possibility of malfunctions.
- Transcript production is slower in pages per hour, since the typist usually will have to view the entire film.

C. Comparison of court reporting techniques

The selection of a court reporting technique, or the acceptance of more than one, for a particular application can only be made after consideration of the available alternative technologies and a careful analysis of the needs of the court. These needs are by no means uniform from court to court, or from one proceeding to another within a court. For example, a reporting method which expedites the transcription process but is quite expensive to operate may be suited for trials where appeals are likely; that technique would be less than ideal for courts with a low rate of appeals, or for preliminary proceedings (e.g., arraignments) that are rarely reduced to transcript. Only by preparing a fairly detailed and candid analysis of its reporting needs, present resources, and alternative techniques can a court efficiently and effectively utilize different technologies.

An ideal court reporting method would

- be inexpensive to purchase and operate.
- permit rapid transcription when required.
- ensure absolute accuracy, with a high degree of verifiability.
- be easily learned by reporters or operators.
- be readily standardized.

Unfortunately, no technique has all these characteristics, so a balance must be struck among them. The features of the different techniques must be ranked in order of efficiency, in light of the needs of the court, and the one or more techniques offering the necessary advantages adopted for use.

D. Cost considerations

Court reporting services are a substantial item in most court budgets and add significantly to the total cost of the justice system; yet such costs are infrequently scrutinized in any detail. At a time when caseloads, and especially appeals (particularly criminal appeals) are increasing sharply, the failure to document and study the costs associated with reporting is a serious problem. Public funds are paying for much of the increased transcript burden, since 90 to 95 percent of criminal appeals involve indigent defendants. Thus, any scrutiny of reporting costs which ultimately reduces expenditures will be well-rewarded.

The selection of reporting techniques for a particular application must involve and may even be dictated by cost considerations. Any cost analysis of present or possible techniques should include at least the following cost elements:

- Recording/reporting personnel salaries plus fringe benefits
- Recording equipment (if court-supplied)--purchase, installation, and maintenance
- Court facilities for reporters--office space, office equipment
- Recording supplies--steno-note paper, magnetic tape
- Reporter travel and per diem expenses, if separately paid
- Transcription equipment--typewriters, dictation machines, and playback recorders
- Transcription supplies--paper, carbons, ribbons, covers
- Typists (if court employees)
- Transcript fees paid by court or public agencies

The total amount of these costs, and the relative amounts of each, will vary greatly depending upon the reporting technique used, transcript volume, the extent to which reporters are court employees, etc. No attempt can be made in a chapter such as this to formulate guidelines or to suggest "ideal" ratios among the categories of expenses.²¹

III. COMPUTER-AIDED TRANSCRIPTION IN THE COURTS

An alternate method of stenotype transcription--the use of a computer to translate machine shorthand notes into English--is now a viable, cost-effective technology for speeding the preparation of court transcripts. The National Center for State Courts has just completed (28 February 1981) a fourteen-month study to evaluate the use of

computer-aided transcription in the courts, and has published both a final report (Computer-Aided Transcription in the Courts) and an Executive Summary of the study findings. These will be discussed briefly here.

CAT technology

Computer-aided transcription technology eliminates some of the time-consuming steps in the transcription process. With CAT technology, the reporter produces shorthand notes in the same manner with a stenotype machine. However, this CAT stenotype machine simultaneously produces a magnetic tape cassette copy of the stenofom notes. The cassette is processed by a computer that translates the stenographic keystrokes to English language. The reporter then reviews the transcript in one of two ways. A paper copy of the transcript can be produced via high speed printer, or the reporter can edit the transcript on a cathode ray tube (CRT) video terminal (akin to a TV screen with a keyboard), which permits the making of immediate corrections of untranslated stenofom outlines, word conflicts (instances where a set of stenographic keystrokes are defined as more than one word in the computer translation dictionary), or punctuation in the transcript. Following this edit, a printer can quickly and economically produce one or more copies of the transcript, which will be free of typographical errors.

CAT has the potential to reduce the involvement of the reporter to the original note taking and one edit cycle, thus saving the court reporter's time. After a reporter's computer translation dictionary has been fully developed and shorthand style adapted, the reporter should be relieved of some of the tedious tasks of reading, translating, dictating, editing, and typing transcripts. The computer should perform these tasks many times faster and has the potential to perform them more economically and with greater accuracy than traditional methods. In turn, the court reporter should be able to devote more time to recording court proceedings, where shorthand skills and abilities are most productive. This should reduce the need for substitutes and save the court money. Increased productivity should help to keep pace with growing transcript demands or with periodic surges in demand, as well as allow sufficient time to proofread final transcripts to ensure high accuracy.

At the end of 1980, there were five CAT vendors with viable operational systems. All five offer various versions of a stand-alone CAT system. One also offers a modified version of the service bureau approach to CAT. Four vendors are new since 1977: Cimarron Systems of Greenville, Texas, which has been purchased by Stenograph Corporation; Reporter's C.A.T. Systems, Inc., of Greenville, South Carolina; Translation Systems, Inc., of Rockville, Maryland; and Xscribe Corporation of San Diego, California. One of the vendors, Stenograph Corporation of Skokie, Illinois, was in business in 1977, but has significantly modified its CAT system since then, and has also purchased the Cimarron system. Only one vendor, Baron Data, Inc., of San Leandro, California, is marketing the basic system (with modifications) it initiated in 1975-76. Baron recently announced the availability of a less sophisticated and hence less costly version of its basic system. Vendor estimates of the number of systems operating at the end of 1980 are shown in Figure 1.

At the present time, the five CAT vendors offer three general CAT operating configurations. These three configurations are depicted in Figure 2.

In two of these configurations (Type A and Type B), the user (an individual reporter, free lance reporting firm, or court) who purchases or leases the CAT system controls the translation process on his own

computer. In the other configuration (Type C) the CAT vendor controls the translation process on his computer, but the user controls the editing and printing processes. There are variations in each of the configurations depicted in Figure 2, depending upon the particular vendor involved. Some of the major variations involved in the basic configurations are discussed in the project report. A more detailed description of the possible variations for each vendor can be found in the CAT vendor profiles in Appendix A to the report.

Using a CAT system

Although the several CAT vendors offer an assortment of CAT services and equipment (described in Appendix A to the complete report), CAT users, be they official court reporters or private reporters, must all execute certain basic functional steps in utilizing a CAT system. Several years' experience in operating CAT systems now indicates that the efficiency with which each of these steps is performed will determine the time spent in CAT-related activities and ultimately the cost-effectiveness of this transcription system as opposed to the traditional dictation-for-typist transcription method.

The crucial functional steps that determine the efficiency of any CAT system are the following:

1. Taking a clean and consistent style of shorthand notes on a modified stenotype device.
2. Building an adequate dictionary for the computer to use in translating the stenotype notes, or adapting to a predefined dictionary.
3. Learning the editing process on the CRT in order to understand how shorthand style affects the quality of the translation.

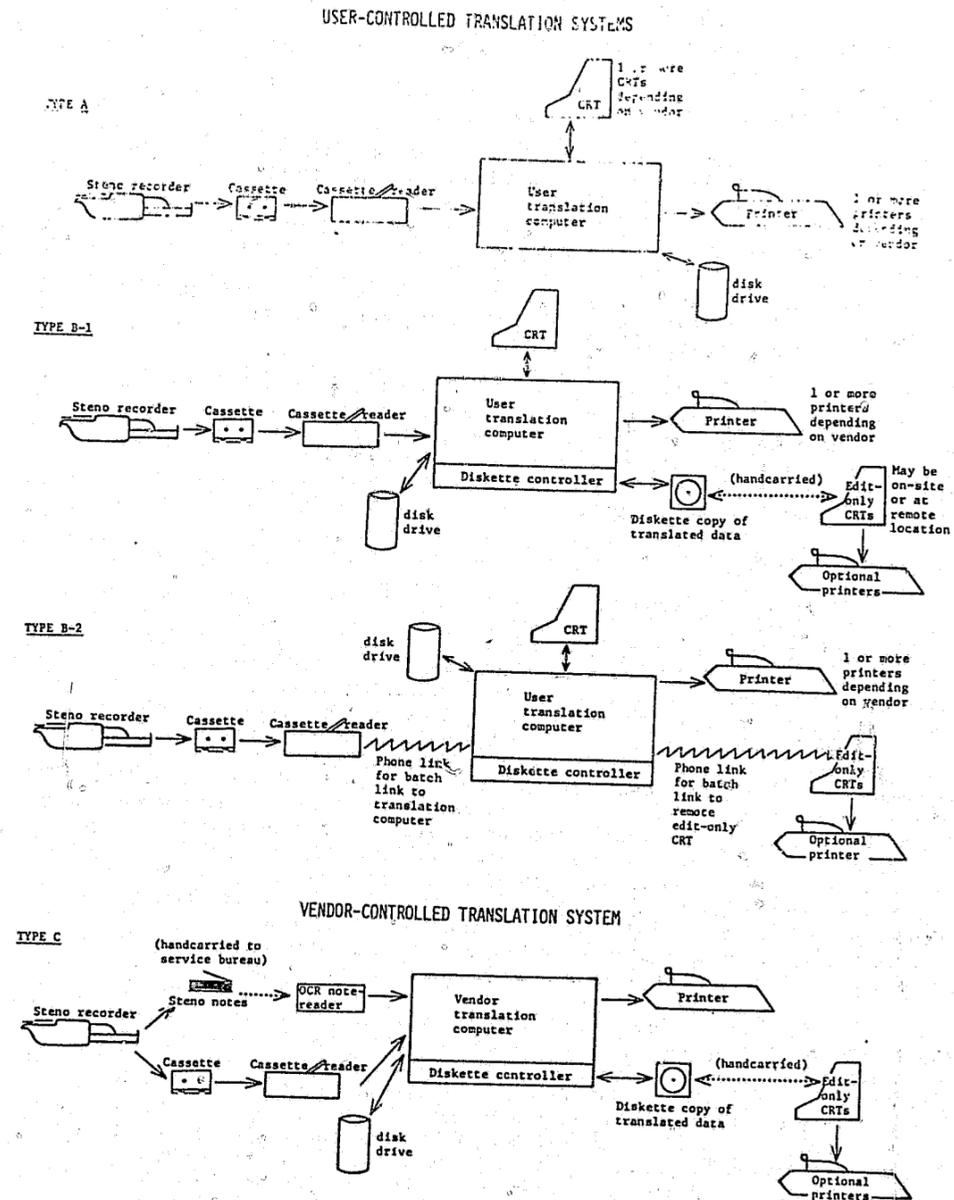
Figure 1: CAT Installations as of 1/15/81

Vendor	Total number of CATs installed*	Number of court-sponsored CATs installed or ordered	Number of reporters using vendor system
Baron Data	250	9	1,500
Reporter's C.A.T., Inc.	1	-0-	14
Stenograph Corporation Cimarron System Steno-CAT System	75	2	140-170
Translation Systems, Inc.	18	5	81
Xscribe Corporation	1	-0-	30
Totals	345	16	1,765-1,795

*Does not include systems ordered but not yet installed.

Note: Based on a survey of the vendors regarding the number of systems that have been ordered for implementation during early 1981, and projecting these figures out for the entire year, it is estimated that the total number of CAT systems installed and pending installation may exceed 600 by the end of 1981.

Figure 2: Three basic CAT configurations



4. Adapting shorthand style to the computer translation requirements. (Clean, consistent style is more important than the particular "school" of shorthand used.)

5. After the reporter shorthand style is adapted to CAT and volume is high enough that assistance is needed, then training a scoper or editor so reporters can spend time reporting rather than editing.
6. Scheduling the use of the CRT if more than one editor/reporter uses it.
7. Scheduling the CAT system operation to continuously perform three functions (translating, editing, printing) simultaneously. (This is particularly important with CAT systems that do not support multiple on-line CRTs that can perform different functions on different jobs simultaneously.)
8. Learning shortcuts in computer operation, such as "globals" and "includes" to enter repetitive material, that save transcript production time.

These functions can all be performed by the reporters themselves, as is done in some private agencies, or numbers 5, 6, 7, and 8 can be performed by someone other than a reporter. Although there are vigorous proponents of both arrangements among CAT users, agreement is fairly consistent across the country that success in performing these eight functions is crucial to the efficient operation of a CAT system.

CAT in the courts

Usage of CAT technology by court reporters is much more extensive than actual installation of CAT systems within courts. A phone survey of courts and private reporting firms conducted by this project indicated that at the end of 1980 there were about 345 CAT computers operating in approximately 280-300 sites (some of the private agencies have more than one computer). Of these 300 sites (which include the eleven operational and 5 planned court sites), it was estimated that approximately 120 sites (40 percent) were directly or indirectly (official reporters using private agencies as a service bureau) involved in the production of official court transcripts. It was estimated that approximately 225 reporters who devote most of their time to official state or federal court reporting (on a contractual basis), produce their transcripts on a CAT in a private agency. An estimated additional 115 private reporters using free-lance agency CAT systems spent up to half of their time on official court work. Hence, out of the estimated 1,800 reporters using CAT systems, approximately 325-375 of them were involved with official court reporting. A quarter of these worked on CATs in state courts.

At the end of 1980 eleven state courts (ten trial courts and one appellate court) had a CAT system wholly sponsored by the court. Five more state courts were implementing CAT. These sixteen systems collectively involve about 88 official reporters. Six of the operational court CAT systems had been operational for more than one year. CAT Analysis Project staff visited all but two of the court sites, as well as a number of private agencies using CAT, and did six case histories to demonstrate the costs and benefits of CAT systems. Two of the case histories in the project report are of courts that have used CAT for more than a year; two are of courts that installed a computer in the spring of 1980; two are of private agencies that have contracts to provide reporting services to trial courts (Agency Y and Agency Z).

Conclusions from case studies

The benefits that could result from use of computer-aided transcription in the courts can be grouped under three broad headings:

cost savings, time savings, and intangible benefits that cannot be quantified. It is clear from the case studies and other sites visited that all three are achievable using CAT. In short, CAT technology can and does work, but the way in which it is used in the court environment will determine its efficiency.

Whether a CAT system is a cost-beneficial investment for a court will be determined by how CAT system use is integrated into a particular court's management strategies, including managing court reporting resources and services. In a court that does a good job of managing its reporting resources, CAT can be smoothly integrated into court operations and can be expected to achieve the intended goals of time and cost savings. In a court that either does not manage its reporting resources or does it poorly, a successful CAT operation is not likely.

CAT is not a passive technology. To be successfully implemented in a court, two requirements must be met: first, the court must manage and control the allocation of court reporting resources; and second, the court must actively manage the operations of its CAT system. If a court assesses its operations and feels it cannot achieve these two overall requirements, then CAT is better left to the private sector.

Cost savings

The two private agency studies provided in the full CAT report (Y and Z) prove clearly that CAT can produce a page of transcript for the same as or less cost than a page of transcript produced manually. Agency Y is producing 58,000 pages of CAT transcript a year for \$.18 less per page than its manual transcription costs. Agency Z's cost for 36,000 CAT pages annually is \$.03 higher per page than the cost of manual production, which represents increased supply costs.

Unfortunately, only one of the eleven courts using a CAT system in 1980 was able to achieve a cost-effective operation, and that occurred six months after the site visit after substantial changes in reporters using the system.

Time savings

Some of the court reporters in the CAT sites visited produced transcripts in a more expeditious manner than non-CAT reporters in the same court. However, some of the non-CAT reporters had equally good records for timely production of transcripts.

The two private agencies studied happened to be located in states with strict rules for transcript submission, and enforced sanctions for not meeting the requirements. Their performance indicates clearly that in their jurisdictions deadlines can be consistently met, regardless of what kind of transcription method is used. In the case of those two private agencies, however, the reporters clearly feel that using CAT is a very substantial aid in simplifying and speeding transcript production.

In two of the court case studies, at least two reporters substantially reduced the time required to produce a transcript, but in the two states involved, appellate court case backlog is so extensive that transcript delay merely reflects appellate delay and is not clearly a factor causing it. In these two states little emphasis is placed on timeliness of transcript submission because of the appellate court's overwhelming case backlog. Consequently, reporters may be reducing the time spent in preparing transcripts by using CAT, but few cases are being submitted to the appellate court more speedily.

In other case studies, as well as in courts visited that were not used as case studies, it appeared that some reporters were able to produce transcript in a more timely fashion using CAT, but that these transcripts were then held the usual length of time before being submitted to the court. In these instances, the time savings associated with CAT were, of course, lost to the judiciary.

A different aspect of the achievement of time savings is that such savings quite clearly relate more to the ability, motivation, and management of the reporter than to the method of transcription used. Reporters who are intent on meeting deadlines and increasing productivity will succeed on CAT because it is a mechanism that assists them to do both. But a reporter who is not similarly motivated will probably never use a CAT efficiently. In short, reporter motivation and work habits are of critical importance in the successful utilization of a CAT system.

Intangible and other benefits

A court administrator contemplating CAT usage should also examine whether intangible benefits exist that could offset the expense of the computer system. The following are significant factors that should be considered:

1. Both time savings and the potential for actual delay reduction in transcript submission.
2. Transcript security achieved through court possession of each reporter's translation dictionary and stenotype cassettes.
3. Setting of standards for court reporter performance that are possible with CAT, but might be difficult with traditional manual transcription methods.
4. Improved reporter morale resulting from being freed of tedious and time-consuming dictation.
5. Cost control that results from knowing the cost of transcription support, where manual costs in an inflationary period are hard to predict.
6. Non-court benefits such as litigation support services offered by several CAT vendors as well as variations in length of custodial care of prisoners awaiting trial, or in local custody while awaiting appellate court review.

Impact of the court environment on CAT costs and benefits

At the present time, CAT systems in state courts are not operating anywhere near the potential of the technology. The technology is not the problem, as success in the private sector clearly demonstrates. If the technology is not the problem, then the following factors in the court environment are hindering cost-effective use of the technology.

1. In general, the courts observed during this study have not been doing much in the way of actively managing their court reporting resources. In most instances, reporters operated independent of other reporters and basically answered only to their individual judges regarding workload, work habits, and transcript production. Some of the courts had a position which was vested with the responsibility of managing the court reporters; however, this responsibility rarely included authority, and even

more rarely was the authority exercised when present. Most of these situations have evolved over time and the persons responsible for managing court reporting resources simply could not alter the existing situation. The net result was that reporters were effectively insulated from much, if not all, management oversight and accountability.

2. Court CAT systems have been marked by a lack of planning, system coordination, system support from court administration (in terms of adequate substitutes available during the startup period, etc.), judicial support, and/or reporter motivation and cooperation.

3. In some instances, courts have embarked on a CAT implementation without any realistic idea of the potential volume available to put through the system. This has resulted from reporters refusing to divulge what their actual production (all case types) is, judges not requiring the disclosure of this information, and/or misinformation supplied by reporters. There has been a general over-estimation of how many pages of transcript reporters are actually producing.

4. The most effective utilization of a CAT system involves assignment of reporters to match workload requirements. In both Agency Y and Z, the ability of the agency to assign reporters to meet workload requirements, to demand production of all work via CAT, to demand commitment by the reporters, etc., has been the key to their success with CAT. Only one of the courts reviewed has recognized the importance of these factors and has made the changes necessary to operate the CAT efficiently.

5. The dictionary building and shorthand adjustment process should not take longer than 4 to 8 months, but some court reporters are taking much longer than this. Management must provide adequate time and substitutes and establish requirements that make this learning stage as short as possible. During that period there will be a drop in reporter productivity, and adjustments (available substitutes from pool or per diem reporters) need to be made to permit the reporter to get back up to speed as soon as possible. During this period the reporters should be monitored and held accountable and the court should expect efficiency to be achieved within set time frames.

6. Direct cost savings from use of CAT will not occur until page volume reaches the level where translation fees and reduction in substitute reporters pay the expense of running the system. In the courts surveyed, realistic appraisals have seldom been made of the volume levels that are available or needed.

7. Official state court reporters do not generally share the growing perception in the free-lance community that CAT is a logical tool for the reporting profession to adopt in order to increase productivity and reduce the transcription burden. Although official reporters are generally employees of the court, they regard themselves as independent contractors, and consider CAT equipment too expensive to finance alone. Their perception of themselves as independent contractors to the court (regardless of the actual situation) can and has negatively affected reporter ability to cooperate with each other in the efficient use of a court CAT system. Since their court employment arrangement does not offer easy ways for reporters to collectively finance a CAT system, they wait for the court to implement CAT, and then volunteer to use it. But since the court is paying for it and managing it, the individual reporters do not feel responsible for its efficient operation, even though they would like to control its operation and enjoy its benefits.

8. The indirect benefits that could accrue to the court from the use of CAT may be more important than direct cost savings. These should include a shortening in the time required to produce a transcript and the ability of reporters to handle a larger volume of transcript. Steno notes and dictionaries are available if a reporter leaves, which would permit another reporter to transcribe them if necessary. CAT steno notes should also be of high quality, and are more easily transcribable on CAT than any other way if someone other than the reporter who took them has to transcribe them. There may also be a decrease in non-court costs, such as custodial care of defendants while appeals are pending, if transcripts can be prepared more speedily.

9. The use of scopers to scan/edit is not a prerequisite to efficient utilization of a CAT system in a court environment, but is rather a mechanism for handling volume or scheduling problems. Scopers used too early in reporter training may lead to continual delay because the reporters may not be forced to clean up their shorthand.

10. The advantages to be enjoyed by reporters from use of a CAT system are not dependent upon the system's being installed in or by the court, but rather on efficient use of the system wherever it is located.

Can your court make CAT technology work?

The cost-effective use of computer-aided transcription depends on the efficient management of court reporting resources. If a CAT system is to be installed in or by a court, both court commitment and reporter commitment should be examined to determine whether the management situation in a court is conducive to a successful CAT operation.

Assess your court's commitment to the efficient operation of a CAT system

1. The court must provide for the operational management that will ensure the efficient operation of the system.
2. Efficient operation of a CAT system requires that reporters be assigned to accommodate changing workload requirements.
3. The manager responsible for a court CAT system must know the volume of transcript being produced by each reporter who is a candidate for CAT.
4. CAT reporters must work in courts producing a high volume of transcripts.
5. The judges must be willing to abide by the CAT screening guidelines and page volume requirements.
6. The court must be supportive of the reporter during the learning process.

Each of these commitments is discussed in detail in the project report.

Assess your reporters' commitment to optimum utilization of the CAT system

The commitment of your court's reporters to a successful CAT operation is perhaps the paramount requirement for an efficient CAT operation in your court. If your reporters are not demonstrably committed to the use of CAT because of personal, political, or economic concerns, the recommendation of this report is that your court not implement a CAT system.

The following reporter commitments are essential to the efficient operation of a CAT system in a court:

1. Reporters must be willing to participate in a screening process to determine which reporters should be the first to use CAT.
2. Reporters must agree to achieve a certain level of efficiency on CAT within specified time periods, even if this involves overtime work in the office rather than at home.
3. Reporters should agree to process a minimum number of pages each month through the CAT system. (This report recommends a minimum of over 700 pages a month; the explanation of the rationale is contained in the report.)
4. Reporters must be willing to edit their own notes at any time the notes are not clean enough to be done by a scoper.
5. Reporters should be willing to cooperate in attaining maximum scheduling flexibility of the CAT system.
6. Court reporters using CAT must agree to process all their work through CAT, and to give their court work first priority if the court has financed the CAT.
7. Court reporters should help defray the cost of a court CAT system at least up to the level of their present cost of producing transcript manually.
8. The reporters should agree that the court should retain a copy of the reporter's dictionary.

Each of these commitments is discussed in the project report.

Cost-benefit analysis and implementation strategy

If a court has reviewed these criteria and concluded that it has sufficient control of its reporting resources to undertake the implementation of a CAT system, then the CAT Analysis Project report provides a detailed costing methodology for comparing the per-page costs for manual and CAT transcript production support, as well as for calculating the cost break-even point for a CAT system. The report also presents guidelines for selection of an appropriate CAT vendor, as well as the establishment and implementation of management procedures for running a CAT. Two hypothetical examples of CAT implementation are included, which provide costs and break-even points associated with current CAT vendors, illustrating the costs associated with and production levels necessary to run a cost-effective system.

Figure 12: Implementation milestones for a cost-effective CAT system

- A. System planning (months 1-3)
1. Complete review of court and reporter commitment to a CAT system implementation as outlined in Part III of this report.
 2. Designate person in court responsible for making decisions regarding CAT procurement and designate CAT system coordinator. Duties of the CAT coordinator have been discussed in Section II above.
 3. Screen reporters for adaptability to CAT. (One screening tool provided by the NFRA is contained in Appendix D. This may not be totally appropriate for all vendors' systems; however, it will give a good indication of the reporters who are probably good candidates for CAT.)
- B. Issue RFP (month 2-4)
The system manager and CAT coordinator should jointly develop a request for proposal (RFP) to be sent to all CAT vendors (see listing in Appendix A). The contents of such an RFP have been discussed in Section I: Selecting a CAT Vendor.
- C. Lease/purchase decision; select vendor (months 4-8)
1. Receive bid information from various vendors.
 2. Solicit input from your reporters in reviewing RFP information.
 3. Determine comparative costs and features for all components and supplies for lease, lease/purchase, or purchase options offered by each vendor.
 4. Determine whether you will lease or purchase equipment and software.
 5. If funding is to be provided by multiple sources, including reporter guarantees of pages per month or translation fees paid by reporters, etc., enter into formal agreements with reporters and/or other funding sources.
 6. Select vendor and complete contract negotiations with vendor.
- D. System implementation (months 8-10)
1. Prepare site (install dedicated electrical circuit, air conditioning, antistatic mats, telephone(s), etc., as required by vendor selected).
 2. Receive steno recorder machines and issue to reporters. (month 8)
 3. Issue steno recorders to all reporters who will be going on the system. (month 8) As soon as received, steno recorders should be issued to all reporters going on the system regardless of when they will be going on. This will allow reporters to be taking active cases on CAT-compatible cassettes so that when their training cycle begins, they will have ordered transcripts to work on.
 4. Install CAT (will be done by hardware vendor in conjunction with CAT vendor).
 5. Hire scopers if decision has been made to use one.
 6. Establish and implement formal management and monitoring procedures (as discussed in Section II above).
 7. Begin system training (provided by CAT vendor, but will require having a scoper, if one will be used, and first set of reporters freed of reporting assignments).
- E. Initiate training/production cycle with first group of reporters. (month 10)
CAT coordinator and system manager review on at least a quarterly basis each reporter's productivity and progress to determine whether the reporter should stay on CAT. (months, 13, 16, 19, 22, etc.)
- F. Initiate training/production cycle with second group of reporters. (month 16)
CAT coordinator and system manager review on at least a quarterly basis each reporter's productivity and progress to determine whether the reporter should stay on CAT. (months, 19, 22, 25, 28, etc.)
- G. Initiate training/production cycle for third group of reporters. (month 22)
CAT coordinator and system manager review on at least a quarterly basis each reporter's productivity and progress to determine whether the reporter should stay on CAT. (months 25, 28, 31, etc.)
- H. On-going system management and monitoring.

Footnotes 1 through 21 follow.

Footnotes

¹And, for example, many felony sentencings in California, where the transcript of the preliminary hearing is used. Cal. Penal Code § 859-60 (West Supp. 1975).

²National Advisory Commission on Criminal Justice Standards and Goals, Courts (Recommendation 6.1), pp. 140-41 (Washington, D.C.: U.S. Government Printing Office, 1973). See also ABA Standards Relating to Criminal Appeals, Commentary to Standard 3.3, at 88 (1969); ABA Standards Relating to Appellate Review of Sentences; Standard 2.2 (1967).

³See CAT Analysis Project, Computer-Aided Transcription in the Courts (Williamsburg, Virginia: National Center for State Courts, 1981).

⁴The material in Part I is largely a reprint of a monograph entitled Management of Court Reporting Services by J. Michael Greenwood and Douglas C. Dodge, published by the National Center for State Courts in 1976 and no longer in print. (The report was supported by a grant from the Charles E. Culpeper Foundation and funding by the Law Enforcement Assistance Administration, Grant Numbers 75-DF-99-0043 and 76-DF-99-0026.) Minor editing has been done to update information and references where appropriate, but the basic analysis and recommendations regarding the management of court reporting services are still valid and very pertinent to current problems of court management.

⁵Part II is also drawn from Management of Court Reporting Services, with the addition of source references where court managers can find more extensive information about technology available for preparing the court record, as well as analyses of reporting problems in specific jurisdictions.

⁶The CAT Analysis Project was supported by Grant Number 79-DF-AX-0188 from the Law Enforcement Assistance Administration, Office of Criminal Justice Programs/Adjudication Division. Copies of the full report can be obtained from the Publications Department, National Center for State Courts.

⁷The Oregon Court of Appeals is one example. See Volume and Delay in the Oregon Court of Appeals, a staff study by John A. Martin and Elizabeth A. Prescott (Williamsburg, Virginia: National Center for State Courts, 1980), pages 11-12.

The CAT Analysis Project study found that transcripts were submitted within time limits in those jurisdictions that enforced the requirements, and that transcripts were generally late in those jurisdictions that did not. See Computer-Aided Transcription in the Courts (Williamsburg: National Center for State Courts, 1981).

⁸Where the transcript is requested for purposes of appeal, the preferable practice might be to file the request in duplicate, with a copy going to the appellate court. This would facilitate the monitoring of transcript production and of individual reporter's backlogs.

⁹Even where a fixed deadline, such as 30 days, is established for transcripts in the ordinary course, there will be need for special treatment categories, such as daily copy (delivery requested within 18 hours of the close of the daily proceeding) or expedited copy (within 72 hours). In such situations as a nonjury criminal trial where the judge desires to review some testimony, or where an attorney needs the transcript of a suppression hearing for use at trial, a fixed 30-day limit (which will tend to become the minimum) would impede rather than expedite the progress of the cases.

Footnotes continued-

¹⁰See Martin, Merle P., and David Johnson, Electronic Court Reporting in Alaska (Anchorage: Alaska Court System, 1979).

¹¹In a survey done by CAT Analysis Project staff, the average time spent by a reporter in dictating, editing, and proofing an hour of shorthand (40 pages) to be done by a typist was 2.36 hours. If a reporter spends 30 hours a week in court, he or she should be able to produce 675 pages of transcript monthly in the extra 10 hours a week, without working overtime.

¹²For a more comprehensive treatment of the appellate process, see publications of the Appellate Justice Improvement Project:
Volume and Delay in the Oregon Court of Appeals
Volume and Delay in the Montana Supreme Court
Volume and Delay in the Florida Court of Appeal, First District
Volume and Delay in the Colorado Court of Appeal
Volume and Delay in the New Jersey Superior Court, Appellate Division
Volume and Delay in the Nebraska Supreme Court
Volume and Delay in the Illinois Appellate Court, First District
Volume and Delay in the Ohio Court of Appeals, Eighth District
 (North Andover, Massachusetts: National Center for State Courts, 1980)

¹³A similar format, modified as appropriate, could readily be used at the trial court level.

¹⁴Where free lance work is permitted, neither the assignment of a reporter to a court proceeding nor the deadline for producing court transcripts should be influenced by the amount of outside work pending. The first demand on a reporter's services is his or her obligation to the court, and personal or spare-time obligations should not reduce the obligation.

¹⁵Unless the court or courts serviced by the reporter are divided into functional parts, some of which are identifiable as "heavy" transcript parts and some as "light" transcript parts, rotating reporters might still result in unequal distributions of transcript demands. That the workload will even out over a period of time is not a sufficient answer, if the rules require transcripts to be produced in a short period.

¹⁶For example, if a transcript of one set of notes in 10,000 is first requested or needed two years after trial, the cost of one re-trial must be weighed against the cost of storing, indexing and maintaining the other 9,999. In criminal cases, where the probability of need for the notes is more difficult to assess and the issues at stake may be more important, the court should carefully consider microfilming the reporter's notes.

¹⁷ABA Standards Relating to Criminal Appeals, Commentary to Standard 3.3 (1970).

¹⁸The CAT Analysis Project in February 1981 completed a 14-month effort to evaluate the use of computer-aided transcription in the courts and to provide guidelines for its implementation and use. See Part III of this monograph for a synopsis of the study findings.

¹⁹For a much more detailed treatment, see Court Equipment Analysis Project, Audio/Video Technology and the Courts: Guide for Court Managers (Denver: National Center for State Courts, 1977).

See also Martin and Johnson, Electronic Court Reporting in Alaska (Anchorage, 1979).

²⁰For a much more detailed treatment, see Court Equipment Analysis Project, Audio/Video Technology and the Courts: Guide for Court Managers (Denver: National Center for State Courts, 1977). Also National Institute of Law Enforcement and Criminal Justice, Video Technology in the Courts (Washington: U.S. Govt. Print. Off., 1977).

²¹To assist in the analysis of court reporting needs and costs, the reader may wish to consult the following publications:
 National Center for State Courts, Selection of a Court Reporting Method for the District Courts of Oregon (Denver, 1973)
 National Center for State Courts, Video Support in the Criminal Courts (Denver, 1974)

E.H. Short and Associates and McGeorge School of Law, Videotape Recording in the California Criminal Justice Systems (Sacramento, 1975)
 National Center for State Courts, Compensation and Utilization of Court Reporters in Ventura County (California) (Western Regional Office, 1974)

National Center for State Courts, Nebraska Court Reporting Project (North Central Regional Office, 1975)

National Center for State Courts, Puerto Rico Court Reporting Study (Southern Regional Office, 1975-1976)

National Center for State Courts, Court Reporting Services in Maryland (Mid-Atlantic Regional Office, 1976)

Hawaii Office of Court Administration and National Center for State Courts, Hawaii Guidebook for Videotaping (Western Regional Office, 1976)

National Center for State Courts, Court Reporting Services in South Dakota (North Central Regional Office, 1977)

National Center for State Courts, Audio/Visual Technology and the Courts: Guide for Court Managers (Denver, 1977)

National Center for State Courts, Court Reporting Services in New Jersey (Northeastern Regional Office, 1978)

National Center for State Courts, Connecticut Court Reporting Services: Proposed Regulations; Transcripts by Connecticut Court Reporters (Northeastern Regional Office, 1978).

National Center for State Courts, Alternate Court Reporting Techniques for Connecticut (Northeastern Regional Office, 1979)

National Center for State Courts, Court Reporting Study for the Pulaski County Circuit Court, Little Rock, Arkansas (Southern Regional Office, 1978)

Martin, Merle P., and David Johnson, Electronic Court Reporting in Alaska (Anchorage, 1979)

National Center for State Courts, Computer-Aided Transcription in the Courts (Williamsburg, 1981)

COMPUTER-AIDED TRANSCRIPTION IN THE COURTS

EXECUTIVE SUMMARY

A project of the
National Center for State Courts
300 Newport Avenue
Williamsburg, Va. 23185

Acknowledgements

The Computer-Aided Transcription (CAT) Analysis Project was undertaken by the National Center for State Courts to provide a current assessment of the state of the art and to identify cost-effective CAT management models for differing state court environments.

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Staff are particularly grateful to dozens of shorthand reporters across the country who patiently responded to many questions and requests for information. The court officials in those courts that are using CAT systems were also generous with their time, as were the vendors who are marketing CAT systems. Without the cooperation and interest of these many individuals, the information in this report could not have been assembled.

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CAT ANALYSIS PROJECT STAFF

Richard W. Delaplain, Project Director

Mary Louise Clifford, Staff Associate

Terence E. Hahm, Senior Staff Associate

Dana Patton, Project Secretary

This Executive Summary gives only an overview of the contents of the full report entitled Computer-Aided Transcription in the Courts, and is written for court officials who want a better understanding of what CAT is and how it works. Anyone who is seriously considering implementing a CAT in a state court needs all the information contained in the full report in order to evaluate the court's potential for operating a cost-effective CAT system.

Copies of the full report can be obtained from

Richard W. Delaplain, Director
CAT Analysis Project
National Center for State Courts
300 Newport Avenue,
Williamsburg, Virginia 23185
(804) 253-2000

CAT Analysis Project staff are also available to answer questions or provide technical assistance to courts and other agencies contemplating CAT implementation.

Introduction

The review by an appellate court of proceedings in a trial court or the review by a trial court of grand jury proceedings, arraignments, and preliminary hearings usually requires a verbatim record of the proceedings. Court reporters are employed to take down the verbatim record, and to prepare a transcript of the record for the reviewing court. The translation of the shorthand symbols into English and the typing up of the record is a time-consuming, labor-intensive process.

Many courts are facing mounting difficulty in preventing delays caused by time-consuming manual preparation of transcripts as case volume grows, and in supporting the rising salaries and fees involved in transcript production. These growing problems are focusing increasing attention on the need to effectively manage court reporting resources, as well as to examine alternate ways of making the court record. Related issues include the skills required of an efficient court reporter, standards for measuring proficiency, standards for timely submission of transcript and the sanctions necessary to enforce these requirements, accountability, and the role of the court in operational management of court reporting resources.

Several groups are concerned with aspects of these issues. Previous studies by the National Center for State Courts have analyzed court reporting services in several states, management of court reporting services,¹ and the use of alternate methods of

¹Greenwood, J. Michael, and Douglas C. Dodge, Management of Court Reporting Services (Denver, Colorado: National Center for State Courts, 1976)

making the record. The American Bar Association Action Commission to Reduce Court Costs and Delay is examining alternate appeal processes that may reduce reliance on full transcripts. The National Shorthand Reporters Association is working on standards and tests for certification of a CMR--certified managing reporter.

This report will deal with only one aspect of court reporting--the transcription of shorthand taken by a court reporter on a stenotype machine, which is the predominant shorthand method used to record trial court proceedings. (Pen writing, stenomask, and audio or video recording are expressly outside the scope of this study.) Further, this report will deal with only one method of stenotype transcription--the use of a computer to translate machine shorthand notes into English. Computer-aided transcription (CAT) is designed to reduce the amount of time required to prepare the transcript by transferring to a computer the time-consuming functions of translating shorthand notes into English.

The effective use of CAT is only one aspect of measuring the productivity of stenotype reporters. This report does not deal with the whole question, but only with the computer's potential to assist in increasing productivity. To assess CAT, both court managers (judges and administrators) and court reporters need to know whether CAT technology has advanced to a level that makes it a viable, cost-effective, and time-saving alternative to the traditional manual method of transcribing court reporters' stenotype notes. They also need to know what potential it holds for stabilizing or reducing transcript costs while reducing court delay by speeding transcript production. The answer to both these questions will, of course, depend on how effectively CAT can be managed and operated within differing court environments.

The state of the art in CAT technology is still evolving. When this study began, there were seven vendors with operating CAT systems. One of these systems was sold to another vendor, who now offers two systems, while a second vendor (the only vendor who offered only a service bureau approach to CAT) went out of business in December 1980. At least two additional companies are developing CAT systems for future markets. Since these were not considered viable systems at the time this study was completed, they could not be included in this report. Likewise, significant technical advances now under development by existing CAT vendors could not be included because they were still in research and development at year end 1980.

Ten trial courts and one appellate court have already implemented CAT systems. Some court efforts in this area have been minimally documented, most have not. This Executive Summary is based on the complete report of a fourteen-month study by the National Center for State Courts to evaluate the use of computer-aided transcription in the state courts. The state of the art of computer-aided transcription at the end of 1980 is presented first. The experience of state courts using CAT systems is then analyzed, and their experience compared with that of free-lance reporters using CAT in the private sector. Conclusions are drawn to provide guidance to other courts in deciding whether and when

to implement a CAT system. A universal cost-benefit methodology is provided for use by courts regardless of their particular operating environment. A final section outlines management strategies for effective use of CAT, as well as methodology to monitor and evaluate system performance.

Part I: The State of the Art

Many courts are having problems producing transcripts within mandated time periods with their present reporting resources. There may be any number of reasons for this situation, including inadequate standards for hiring reporters, lack of enforcement of statutory requirements for submission of transcripts, and lack of management of court reporting resources. This report will not attempt to analyze the reasons for transcript delay, except in so far as volume of transcript work is a factor causing delay, and CAT can be used as a viable tool to assist courts and court reporters in speeding up the transcription process, thereby handling a larger volume of transcript more expeditiously.

Section 1: CAT technology

What is CAT?

Computer-aided transcription technology eliminates some of the time-consuming steps in the transcription process. With CAT technology, the reporter produces shorthand notes in the same manner with a stenotype machine. However, this CAT stenotype machine simultaneously produces a magnetic tape cassette copy of the stenofom notes. The cassette is processed by a computer that translates the stenographic keystrokes to English language. The reporter then reviews the transcript in one of two ways. A paper copy of the transcript can be produced via high speed printer, or the reporter can edit the transcript on a cathode ray tube (CRT) video terminal (akin to a TV screen with a keyboard), which permits the making of immediate corrections of untranslated stenofom outlines, word conflicts (instances where a set of stenographic keystrokes are defined as more than one word in the computer translation dictionary), or punctuation in the transcript. Following this edit, a printer can quickly and economically produce one or more copies of the transcript, which will be free of typographical errors.

CAT has the potential to reduce the involvement of the reporter to the original note taking and one edit cycle, thus saving the court reporter's time. After a reporter's computer translation dictionary has been fully developed and shorthand style adapted, the reporter should be relieved of some of the tedious tasks of reading, translating, dictating, editing, and typing transcripts. The computer should perform these tasks many times faster and has the potential to perform them more economi-

cally and with greater accuracy than traditional methods. In turn, the court reporter should be able to devote more time to recording court proceedings, where shorthand skills and abilities are most productive. This should reduce the need for substitutes and save the court money. Increased productivity should help to keep pace with growing transcript demands or with periodic surges in demand, as well as allow sufficient time to proofread final transcripts to ensure high accuracy.

How has CAT evolved in the last few years?

A number of substantial changes have occurred in CAT, the most significant of which has been the development and reporter acceptance of user-controlled translation (or stand-alone) CAT systems. Several of the earlier vendors are no longer in business. Those who have significantly modified both their CAT hardware and software.

Current CAT technology

At the end of 1980, there were five CAT vendors with viable operational systems. All five offer various versions of a stand-alone CAT system. One also offers a modified version of the service bureau approach to CAT. Four vendors are new since 1977: Cimarron Systems of Greenville, Texas, which has been purchased by Stenograph Corporation; Reporter's C.A.T. Systems, Inc., of Greenville, South Carolina; Translation Systems, Inc., of Rockville, Maryland; and Xscribe Corporation of San Diego, California. One of the vendors, Stenograph Corporation of Skokie, Illinois, was in business in 1977, but has significantly modified its CAT system since then, and has also purchased the Cimarron system. Only one vendor, Baron Data, Inc., of San Leandro, California, is marketing the basic system (with modifications) it initiated in 1975-76. Baron recently announced the availability of a less sophisticated and hence less costly version of its basic system. Vendor estimates of the number of systems operating at the end of 1980 are shown in Figure 1.

At the present time, the five CAT vendors offer three general CAT operating configurations. These three configurations are depicted in Figure 2.

In two of these configurations (Type A and Type B), the user (an individual reporter, free lance reporting firm, or court) who purchases or leases the CAT system controls the translation process on his own computer. In the other configuration (Type C) the CAT vendor controls the translation process on his computer, but the user controls the editing and printing processes. There are variations in each of the configurations depicted in Figure 2, depending upon the particular vendor involved. Some of the major variations involved in the basic configurations are discussed in Section 1 of Part I of the full report. A more detailed description of the possible variations for each vendor can be found in the CAT vendor profiles in Appendix A to the complete report.

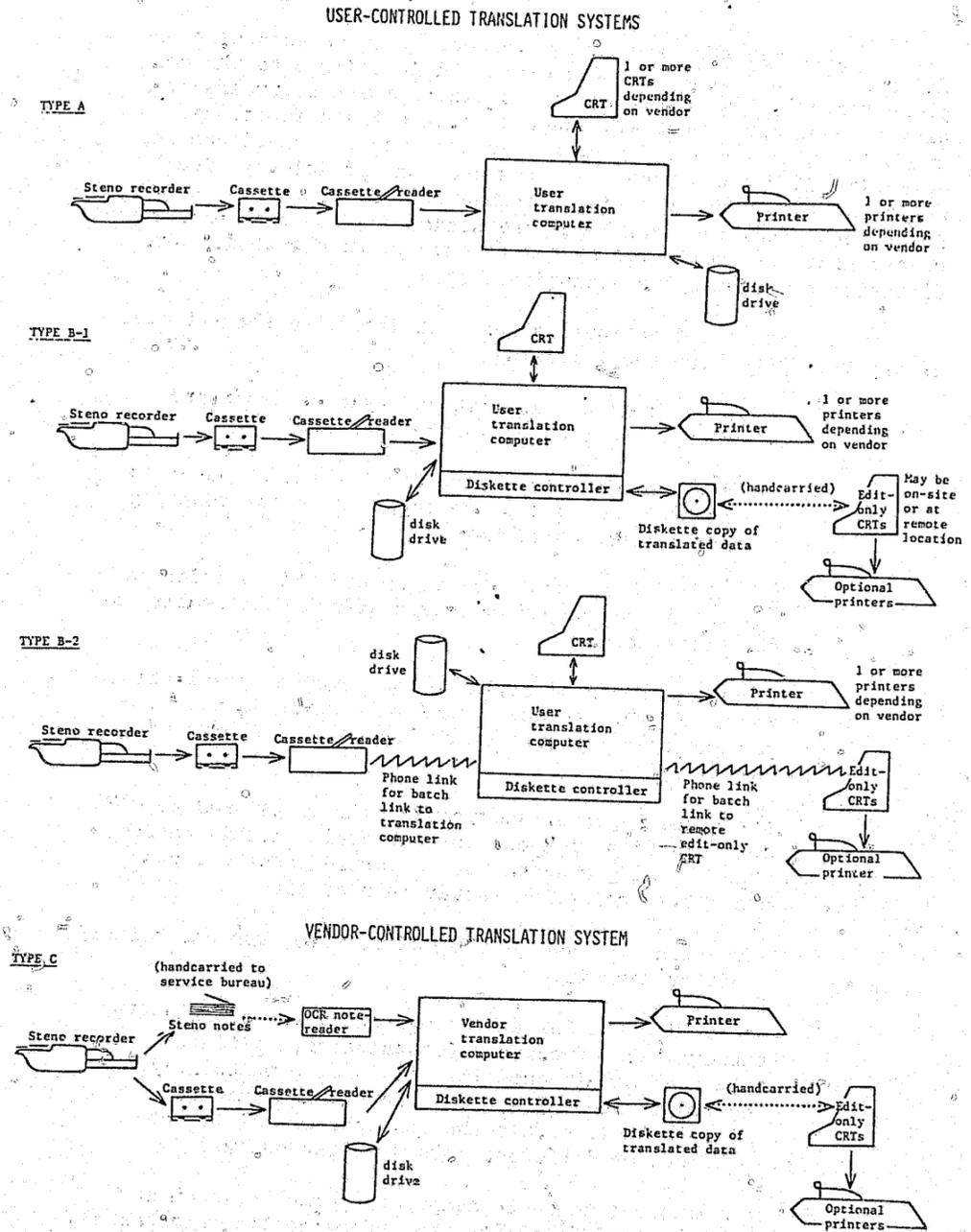
Figure 1: CAT installations as of 1/15/81

Vendor	Total number of CATs installed*	Number of court-sponsored CATs installed or ordered	Number of reporters using vendor system
Baron Data	250	9	1,500
Reporter's C.A.T., Inc.	1	-0-	14
Stenograph Corporation Cimarron System Steno-CAT System	75	2	140-170
Translation Systems, Inc.	18	5	81
Xscribe Corporation	1	-0-	30
Totals	345	15	1,765-1,795

*Does not include systems ordered but not yet installed.

Note: Based on a survey of the vendors regarding the number of systems that have been ordered for implementation during early 1981, and projecting these figures out for the entire year, it is estimated that the total number of CAT systems installed and pending installation may exceed 600 by the end of 1981.

Figure 2: Three basic CAT configurations



Section 2: Using a CAT system

Although the several CAT vendors offer an assortment of CAT services and equipment (described in Appendix A to the complete report), CAT users, be they official court reporters or private reporters, must all execute certain basic functional steps in utilizing a CAT system. Several years' experience in operating CAT systems now indicates that the efficiency with which each of these steps is performed will determine the time spent in CAT-related activities and ultimately the cost-effectiveness of this transcription system as opposed to the traditional dictation-for-typist transcription method.

The crucial functional steps that determine the efficiency of any CAT system are the following:

1. Taking a clean and consistent style of shorthand notes on a modified stenotype device.
2. Building an adequate dictionary for the computer to use in translating the stenotype notes, or adapting to a predefined dictionary.
3. Learning the editing process on the CRT in order to understand how shorthand style affects the quality of the translation.
4. Adapting shorthand style to the computer translation requirements. (Clean, consistent style is more important than the particular "school" of shorthand used.)
5. After the reporter shorthand style is adapted to CAT and volume is high enough that assistance is needed, then training a scoper or editor so reporters can spend time reporting rather than editing.
6. Scheduling the use of the CRT if more than one editor/reporter uses it.
7. Scheduling the CAT system operation to continuously perform three functions (translating, editing, printing) simultaneously. (This is particularly important with CAT systems that do not support multiple on-line CRTs that can perform different functions on different jobs simultaneously.)
8. Learning shortcuts in computer operation, such as "globals" and "includes" to enter repetitive material, that save transcript production time.

These functions can all be performed by the reporters themselves, as is done in some private agencies, or numbers 5, 6, 7, and 8 can be performed by someone other than a reporter. Although there are vigorous proponents of both arrangements among CAT users, agreement is fairly consistent across the country that

success in performing these eight functions is crucial to the efficient operation of a CAT system. A detailed discussion of each of these functions is found in the full report.

Section 3: CAT and the court reporter

To compare the courts' production figures with other non-court CAT users, samples of production data were collected from four other types of CAT users. Figure 3 provides a comparative summary of data for each type of CAT user. Detailed data for each type of CAT user, which are summarized on Figure 3, are contained in Appendix C to the full report.

Comparative data contained on Figure 3 indicate that CAT systems operated within state courts are currently the least productive of the five types of CAT operations reviewed. This is true with regard to the total pages of transcripts produced on a monthly basis, the average number of pages produced per editing station (CRT), and the average pages per month produced by each reporter. While these data are disquieting, they raise questions more than they provide answers: What reporter skills are required by CAT? How can reporter efficiency on CAT be assessed? How should reporters be trained on CAT? How is reporter motivation encouraged?

Each of these questions is discussed in detail in Part I of the main report.

Section 4: CAT in the courts

Usage of CAT technology by court reporters is much more extensive than actual installation of CAT systems within courts. A phone survey of courts and private reporting firms conducted by this project indicated that at the end of 1980 there were about 345 CAT computers operating in approximately 280-300 sites (some of the private agencies have more than one computer). Of these 300 sites (which include the eleven operational and 5 planned court sites), it was estimated that approximately 120 sites (40 percent) were directly or indirectly (official reporters using private agencies as a service bureau) involved in the production of official court transcripts. It was estimated that approximately 225 reporters who devote most of their time to official state or federal court reporting (on a contractual basis), produce their transcripts on a CAT in a private agency. An estimated additional 115 private reporters using free-lance agency CAT systems

Figure 3: Monthly CAT production statistics (December 31, 1980)

Average numbers and range of numbers for monthly CAT production. All systems have more than 1 reporter and have been operational for at least one year.

Environment in which CAT system is operating and number of systems	Average number of CPUs	Average number of CRTs	Average number of reporters	Average number of scopers	Average monthly page volume	Average pages per CRT	Average pages per reporter
6 State courts operating CATs for more than one year	1 (1)	2.5 (1-6)	7.7 (3-12)	1 (.5-2)	2,635 (1,200-4,500)	1,590 (400-3,460)	345 (120-500)
5 Private agencies doing predominantly official state court transcripts	1 (1)	2.2 (1-4)	9.4 (4-22)	.7 (0-3)	5,260 (3,000-10,000)	2,390 (1,500-4,800)	560 (440-800)
12 Private agencies where up to 50% of their work involves the production of official state and/or federal transcripts	1.3 (1-2)	2.7 (1-5)	7 (2-15)	1.1 (0-4)	6,484 (3,000-12,000)	2,430 (1,500-4,200)	925 (670-1,500)
9 Private agencies doing no state or federal official court transcripts	1.2 (1-2)	3 (1-6)	7.4 (2-14)	1.2 (0-3)	7,090 (1,800-13,000)	2,360 (1,670-5,000)	950 (600-1,750)
6 Private agencies where all or a large part of work involves production of official federal court transcripts	1.8 (1-3)	3.2 (2-6)	7 (3-15)	2.2 (0-6)	9,485 (3,900-18,000)	2,995 (1,951-3,600)	1,355 (770-1,430)

Source: Appendix C

spent up to half of their time on official court work. Hence, out of the estimated 1,800 reporters using CAT systems, approximately 325-375 of them were involved with official court reporting. A quarter of these worked on CATs in state courts.

At the end of 1980 eleven state courts (ten trial courts and one appellate court) had a CAT system wholly sponsored by the court. Five more state courts were implementing CAT. These sixteen systems collectively involve about 88 official reporters. Six of the operational court CAT systems had been operational for more than one year. (Appendix B to this report lists each of the currently operational court CAT systems.) An analysis of these six courts at the end of 1980 showed that they had an average of 7.7 reporters (the range is from 3 to 12) on each CAT system. All of them employed a scopist to assist in operating the system and editing. Four of them had more than one CRT. The average monthly page volume put through these six systems was 2,635 pages of finished transcript, which was about 345 pages per reporter. The range was from an average per reporter of 120 pages in one court to 500 pages per month in another. Figure 3 in Part I, Section 3 compared these production levels with four other types of CAT users and indicated that court CATs are the least productive of the operations surveyed.

The volume of transcript produced is, of course, not the only question pertinent to CAT. The cost of using the technology, compared to the cost of traditional manual transcript production methods, must also be assessed and is the subject of Part II of the complete report. Potential savings in the time taken to prepare a transcript and in the promptness with which it can be submitted are also evaluated in Part II as a potential benefit deriving from CAT technology. Another potential benefit to be assessed, and not of necessity reflected in the comparative data in Figure 3, is whether CAT can permit the reporter to spend more time taking shorthand and less preparing transcripts, thus reducing the number of substitute reporters or additional reporters needed by courts now and in the future.

Another area of uncertainty pinpointed by the data on Figure 3 involves the operating procedures and management of CAT systems in differing environments. Were the currently operating court CAT systems carefully planned and are they being well managed? What were the expectations of a court initiating a CAT system? How well was the system's implementation coordinated among reporters, judges, and court administrators? In general, for almost any program involving transcript production in a trial court to succeed, there is a requirement for coordination, cooperation, and commitment by the reporters, judges, and administrators. To the extent that any one segment chooses not to cooperate or demonstrates a marginal commitment to the program, relatively poor results can be predicted. To what extent have these types of problems negatively impacted the number of reporters using court-controlled CAT systems and their ability or willingness to produce transcript volumes comparable to private agencies producing official court transcripts? This general area of planning, coordination, management, and commitment is addressed in Part III of the complete report.

The basic assumption of this report is that effective use of CAT should not involve costs for transcription support above those that the court is now paying, and that use of CAT will result in increased productivity and time savings. Responsible court officials will have to decide in each situation what level of effectiveness is appropriate and necessary in their particular circumstances. The complete report demonstrates how CAT can be both cost-effective and a time saver, with the assumption that the material presented in Part III will permit the potential court user to assess what level of cost-effectiveness and time savings are possible and appropriate in a particular court environment.

Section 5: Future developments in CAT

During the last five or six years, CAT systems available to users have evolved from service bureau based systems to stand-alone systems where all hardware, software, and peripheral equipment is under the direct control of the user. This evolution has been made possible by advancements in minicomputer hardware capabilities and streamlined software developed by vendors. Current research and development by vendors will permit this trend to continue, with more computing power and more sophisticated software being implemented on smaller computers. Some of these systems may be marketed at lower absolute dollar figures, but the state of the art is likely to evolve to systems which may not cost less in absolute dollar terms, but will provide greatly increased computing power per dollar invested when compared to the current system configurations. These improvements will permit increased throughput, lower per-page costs, and quicker payoffs for systems.

An additional factor that is going to have a positive impact on CAT use will be the marketing of stand-alone edit-only terminals at reduced prices compared to today's systems. These will allow small and medium systems to be much more flexible than is currently possible, and will also encourage individual reporters to purchase or lease their own edit-only terminals for home or office usage. In short, reduced prices and increased capabilities on stand-alone edit-only terminals should significantly increase the number of reporters using CAT. The availability of relatively low-cost edit-only terminals in conjunction with more sophisticated telecommunications capabilities will add even more flexibility to small systems, enable more geographically remote reporters to make use of CAT, increase throughput per dollar invested, and decrease per-page costs when compared to current CAT technology.

Some vendors will be offering distributed networks for CAT systems. These distributed nets, in combination with greatly increased disk capacities, will offer large-scale CAT users increased flexibility, system redundancy, and greatly increased throughput at moderately increased prices. Again, the major change will be in the area of increased computing power per dollar invested. The absolute dollar amounts invested will

probably rise; the per-page costs of producing transcript should, however, remain the same or decrease on these large systems.

Two CAT vendors, rather than alter the computer operating system, offer software that runs as an application program on the computer. That is, this software runs under the control of the operating system software provided by the computer manufacturer. If the core memory and disk memory of either vendor's computer is increased (e.g., from 128KB to 256KB core memory and from 20MB to 50MB disk memory), additional applications such as word processing, case indexing, or simple accounting could be run simultaneously with CAT.

Only one of these systems runs on hardware that is upwardly compatible. This means that CAT software could be run on a much larger computer produced by that computer manufacturer. If a court is in the market for data processing technology (for case tracking, indexing, accounting, notice preparation, etc.) and it purchased this manufacturer's computer, a CAT system could be run simultaneously with other data processing applications. Thus the court would buy only one computer rather than two. In addition, the combination of CAT and data processing activities would maximize the usage of the computer, thus actually decreasing the cost per use. As indicated, only one vendor can provide a CAT system that will operate in this mode. It is anticipated that other vendors will offer similar software options in the future. This development should have the effect of decreasing the front-end investment in hardware involved in installing a stand-alone CAT system.

The overall future of CAT can be summarized as probably involving more sophisticated stand-alone systems, increased computing power and throughput per dollar invested, and significant increases in the numbers of reporters using CAT. The private sector will no doubt embrace these technological advancements. There is no reason why courts cannot take advantage of these advances as well. Whether they do will depend to a great extent on whether courts can afford to continue using machine writing reporters without some control on the costs involved in production of the record. In courts using machine writers, there is little doubt that CAT use will increase, regardless of whether the court finances and owns the CAT hardware and software.

Part II: CAT Case Histories/Cost-Benefit Studies

If one considers the total cost to the court of producing transcript, then the expenses associated with transcription support are a very small proportion (5% to 6%) of the total. In the full report, a hypothetical example of a six-judge court with six full-time reporters and one full-time substitute is used to illustrate.

Part II addresses the cost-effective use of CAT systems in courts today, and the benefits that can be realized by courts in using CAT.

When it became clear that experience with CAT systems operated by courts could not provide a complete survey of the potential of the systems for cost savings or time savings or of the range of management techniques necessary to achieve these benefits, the CAT Analysis Project staff chose to examine three different kinds of CAT situations in order to explore as wide a range of options for the state courts as possible:

1. Case histories are presented of two courts that installed the computer at court expense and have been using it for more than a year--case histories #1 and #2.
2. Two private agencies that have contracts to provide reporting services to trial courts are examined in case histories #3 and #4.
3. Two courts that installed CAT systems in the spring of 1980 are examined in case histories #5 and #6 to see if they have avoided some of the problems that have arisen in courts that pioneered in the use of CAT. One of these new systems (case history #6) is of particular interest because it involved a different CAT vendor from that of case histories 1 through 5.

Each of the case histories provides pertinent information on the environment in which the CAT system was installed, and on the costs and benefits in that situation of using computer-aided transcription. The following outline is used for each.

CAT Site Environment

Court/agency description
 Statutory requirements
 Transcript delay
 Implementation history of CAT (hardware)
 Number of reporters trained/training

Operations

System use
 Number of reporters using system
 Current production
 System management

Costs

Lease/purchase
 Data entry devices
 Dictionary and training costs
 Supplies
 Scoper costs

Benefits

Production time of CAT compared to manual transcription
 Effect on transcription requirements
 Effect on reporter workload
 Translation income
 Reduction in substitutes
 Intangibles

Conclusions

General comments of relevance to CAT management conclude each case history.

The broad conclusions that derive from the case histories and other site visits introduce Part III of the full report and of this Executive Summary.

Part III: Can Your Court Skin a CAT?

Section 1: Conclusion from case studies

The benefits that could result from use of computer-aided transcription in the courts can be grouped under three broad headings: cost savings, time savings, and intangible benefits that cannot be quantified. It is clear from the case studies and other sites visited that all three are achievable using CAT. In short, CAT technology can and does work, but the way in which it is used in the court environment will determine its efficiency.

Whether a CAT system is a cost-beneficial investment for a court will be determined by how CAT system use is integrated into a particular court's management strategies, including managing court reporting resources and services. In a court that does a good job of managing its reporting resources, CAT can be smoothly integrated into court operations and can be expected to achieve the intended goals of time and cost savings. In a court that either does not manage its reporting resources or does it poorly, a successful CAT operation is not likely.

CAT is not a passive technology. To be successfully implemented in a court, two requirements must be met: first, the court must manage and control the allocation of court reporting resources; and second, the court must actively manage the operations of its CAT system. While each of these axiomatic requirements have corollary requirements (which are discussed in Section 2), failure to achieve these overall requirements will likely result in an unsuccessful court-sponsored CAT operation. If a court assesses its operations and feels it cannot achieve these two overall requirements, then CAT is better left to the private sector.

Cost savings

The two private agency studies (Y and Z) prove clearly that CAT can produce a page of transcript for the same as or less cost than a page of transcript produced manually. Agency Y is producing 58,000 pages of CAT transcript a year for \$.18 less per page than its manual transcription costs. Agency Z's cost for 36,000 CAT pages annually is \$.03 higher per page than the cost of manual production, which represents increased supply costs.

Unfortunately, only one of the eleven courts presently using a CAT system has been able to achieve a cost-effective operation, and that occurred six months after the site visit after

substantial changes in reporters using the system. Three of the courts for which case studies are presented in the complete report were subsidizing CAT system page costs ranging from \$.19 to \$2.29 per page more than manual transcription would cost. The cost involved in the fourth court studied indicated that it was clearly not a viable candidate for CAT implementation.

How can the difference be explained? First of all, the profit motive of free-lance reporters is basic to their switch to CAT. They believe, based on their evaluation of available evidence in the approximately 280 free-lance agencies using CAT, that they can increase their productivity on CAT, and hence increase income. In the courts, the impetus to increase productivity probably comes from the court administrator, and the systems have been presented to the reporters as a way of easing their workload and expediting output. Although the reporters appreciate these benefits and subsidies are provided to cushion the reporters' training period, the fact that their income is not greatly affected by their level of productivity often negates the urge to push hard for increased or speedier production.

A second factor affecting private reporter motivation to use CAT efficiently is that the agency in which the reporter works may clearly expect good performance on CAT, and job status may depend on it. Courts have not been able or willing to impose the same kind of criteria in managing their court reporting resources, whether transcription is done manually or on CAT. The problems of motivation are basic to all court reporting; effective management and enforceable sanctions are the keys to productivity and timeliness. Where these are lacking, efficiency cannot be achieved.

By and large the courts have been unable to achieve complete reporter commitment to CAT: Not only have they not required all reporters to adjust to CAT, but they have not even required those reporters adopting computer-aided transcription to put all their work through the computer or to put it through expeditiously. Some reporters have insisted on doing some of their work manually when it was more convenient, well after the time they should have been proficient on CAT. This has limited the volume of transcript produced on CAT, thus decreasing economic returns. Another limiting factor has been the slowness with which many of the court reporters using CAT have adjusted to the technology. In fact, the case studies clearly indicate that there are a number of reporters who have been on CAT for a year or more who are not using the system efficiently. They are taking up system time that might be more effectively used by other reporters, and are slowing down the whole operation of the system. In some instances this situation has resulted from the court's refusal to give the reporters sufficient time out of court to adequately train on CAT and their having to spend their free time working to meet existing transcription production demands. In other instances, the problem is attributable solely to lack of reporter commitment to use the court's CAT system.

Time savings

Some of the court reporters using CAT systems can produce transcripts in a more expeditious manner than non-CAT reporters in the same court. However, some of the non-CAT reporters have equally good records for timely production of transcripts.

The two private agencies studied happened to be located in states with strict rules for transcript submission, and enforced sanctions for not meeting the requirements. Their performance indicates clearly that in their jurisdictions deadlines can be consistently met, regardless of what kind of transcription method is used. In the case of those two private agencies, however, the reporters clearly feel that using CAT is a very substantial aid in simplifying and speeding transcript production.

In two of the court case studies, at least two reporters have substantially reduced the time required to produce a transcript, but in the two states involved, appellate court case backlog is so extensive that transcript delay merely reflects appellate delay and is not clearly a factor causing it. In these two states little emphasis is placed on timeliness of transcript submission because of the appellate court's overwhelming case backlog. Consequently, reporters may be reducing the time spent in preparing transcripts by using CAT, but few cases are being submitted to the appellate court more speedily.

In other case studies, as well as in courts visited that were not used as case studies, it appeared that some reporters were able to produce transcript in a more timely fashion using CAT, but that these transcripts were then held the usual length of time before being submitted to the court. In these instances, the time savings associated with CAT were, of course, lost to the judiciary.

A different aspect of the achievement of time savings is that such savings quite clearly relate more to the ability, motivation, and management of the reporter than to the method of transcription used. Reporters who are intent on meeting deadlines and increasing productivity will succeed on CAT because it is a mechanism that assists them to do both. But a reporter who is not similarly motivated will probably never use a CAT efficiently. In short, reporter motivation and work habits are of critical importance in the successful utilization of a CAT system.

Impact of the court environment on costs and benefits

At the present time, CAT systems in state courts are not operating anywhere near the potential of the technology. The technology is not the problem, as success in the private sector clearly demonstrates. If the technology is not the problem, then the following factors in the court environment are hindering cost-effective use of the technology.

1. In general, the courts observed during this study have not been doing much in the way of actively managing their court reporting resources. In most instances, reporters operated independent of other reporters and basically answered only to their

individual judges regarding workload, work habits, and transcript production. Some of the courts had a position which was vested with the responsibility of managing the court reporters; however, this responsibility rarely included authority, and even more rarely was the authority exercised when present. Most of these situations have evolved over time and the persons responsible for managing court reporting resources simply could not alter the existing situation. The net result was that reporters were effectively insulated from much, if not all, management oversight and accountability.

2. Court CAT systems have been marked by a lack of planning, system coordination, system support from court administration (in terms of adequate substitutes available during the start-up period, etc.), judicial support, and/or reporter motivation and cooperation.

3. In some instances, courts have embarked on a CAT implementation without any realistic idea of the potential volume available to put through the system. This has resulted from reporters refusing to divulge what their actual production (all case types) is, judges not requiring the disclosure of this information, and/or misinformation supplied by reporters. There has been a general over-estimation of how many pages of transcript reporters are actually producing.

4. The most effective utilization of a CAT system involves assignment of reporters to match workload requirements. In both Agency Y and Z, the ability of the agency to assign reporters to meet workload requirements, to demand production of all work via CAT, to demand commitment by the reporters, etc., has been the key to their success with CAT. Only one of the courts reviewed has recognized the importance of these factors and has made the changes necessary to operate the CAT efficiently.

5. The dictionary building and shorthand adjustment process should not take longer than 4 to 8 months, but some court reporters are taking much longer than this. Management must provide adequate time and substitutes and establish requirements that make this learning stage as short as possible. During that period there will be a drop in reporter productivity, and adjustments (available substitutes from pool or per diem reporters) need to be made to permit the reporter to get back up to speed as soon as possible. During this period the reporters should be monitored and held accountable and the court should expect efficiency to be achieved within set time frames.

6. Direct cost savings from use of CAT will not occur until page volume reaches the level where translation fees and reduction in substitute reporters pay the expense of running the system. In the courts surveyed, realistic appraisals have seldom been made of the volume levels that are available or needed.

7. Official state court reporters do not generally share the growing perception in the free-lance community that CAT is a logical tool for the reporting profession to adopt in order to

increase productivity and reduce the transcription burden. Although official reporters are generally employees of the court, they regard themselves as independent contractors, and consider CAT equipment too expensive to finance alone. Their perception of themselves as independent contractors to the court (regardless of the actual situation) can and has negatively affected reporter ability to cooperate with each other in the efficient use of a court CAT system. Since their court employment arrangement does not offer easy ways for reporters to collectively finance a CAT system, they wait for the court to implement CAT, and then volunteer to use it. But since the court is paying for it and managing it, the individual reporters do not feel responsible for its efficient operation, even though they would like to control its operation and enjoy its benefits.

8. The indirect benefits that could accrue to the court from the use of CAT may be more important than direct cost savings. These should include a shortening in the time required to produce a transcript and the ability of reporters to handle a larger volume of transcript. Steno notes and dictionaries are available if a reporter leaves, which would permit another reporter to transcribe them if necessary. CAT steno notes should also be of high quality, and are more easily transcribable on CAT than any other way if someone other than the reporter who took them has to transcribe them. There may also be a decrease in non-court costs, such as custodial care of defendants while appeals are pending, if transcripts can be prepared more speedily.

9. The use of scopers to scan/edit is not a prerequisite to efficient utilization of a CAT system in a court environment, but is rather a mechanism for handling volume or scheduling problems. Scopers used too early in reporter training may lead to continual delay because the reporters may not be forced to clean up their shorthand.

10. The advantages to be enjoyed by reporters from use of a CAT system are not dependent upon the system's being installed in or by the court, but rather on efficient use of the system wherever it is located.

If a CAT system is to be installed in or by a court, there are a number of prerequisites that should be considered in promoting its efficient operation. Section 2 identifies these prerequisites.

Section 2: Can your court make CAT technology work?

The cost-effective use of computer-aided transcription depends on the efficient management of court reporting resources. Both court commitment and reporter commitment should be examined to determine whether the management situation in a court is conducive to a successful CAT operation.

Assess your court's commitment to the efficient operation of a CAT system

1. The court must provide for the operational management that will ensure the efficient operation of the system.
2. Efficient operation of a CAT system requires that reporters be assigned to accommodate changing workload requirements.
3. The manager responsible for a court CAT system must know the volume of transcript being produced by each reporter who is a candidate for CAT.
4. CAT reporters must work in courts producing a high volume of transcripts.
5. The judges must be willing to abide by the CAT screening guidelines and page volume requirements.
6. The court must be supportive of the reporter during the learning process.

Each of these commitments is discussed in detail in the complete report.

Assess your reporters' commitment to efficient operation of the CAT system

The commitment of your court's reporters to a successful CAT operation is perhaps the paramount requirement for an efficient CAT operation in your court. If your reporters are not demonstrably committed to the use of CAT because of personal, political, or economic concerns, the recommendation of this report is that your court not implement a CAT system.

The following reporter commitments are essential to the efficient operation of a CAT system in a court:

1. Reporters must be willing to participate in a screening process to determine which reporters should be the first to use CAT.
2. Reporters must agree to achieve a certain level of efficiency on CAT within specified time periods, even if this involves overtime work in the office rather than at home.
3. Reporters should agree to process a minimum number of pages each month through the CAT system. (This report recommends a minimum of over 700 pages a month. The explanation of the rationale is contained in the complete report.)
4. Reporters must be willing to edit their own notes at any time the notes are not clean enough to be done by a scopier.

5. Reporters should be willing to cooperate in attaining maximum scheduling flexibility of the CAT system.
6. Court reporters using CAT must agree to process all their work through CAT, and to give their court work first priority if the court has financed the CAT.
7. Court reporters should help defray the cost of a court CAT system at least up to the level of their present cost of producing transcript manually.
8. The reporters should agree that the court should retain a copy of the reporter's dictionary.

Each of these commitments is discussed in the complete report.

Section 3: Costing methodology

If a court has determined by reviewing the criteria in Section II that it has sufficient control of its reporting resources to undertake the implementation of a CAT system, the next step is to determine whether CAT will be cost-effective in that particular court. A CAT system represents a significant investment for a court or other agency. A purchased CAT system which supports 6 reporters with 2 CRTs may involve a one-time front-end investment of from \$67,000 to \$111,000, depending upon the vendor chosen. A larger system configuration that would support 9 reporters with 3 CRTs could involve a front-end investment of \$80,000 to \$132,000, again depending upon the particular vendor chosen and whether the court pays for all components of the system. In addition to these one-time start up costs, annual operating costs for maintenance contracts, supplies, software updates, etc., plus taxes on these items, could be as high as \$30,000 for a high-volume (each reporter producing 1,000 pages per month) system with the 3 CRT configuration described above. However, these front-end costs and annual costs can be offset by CAT revenues in a properly managed system. System lease prices in effect 1/15/81 are shown in the vendor profiles (Appendix A of the full report).

A court contemplating making an investment of this dimension should read the full report and study the costing methodologies and management guidelines contained therein carefully. This Executive Summary merely indicates the contents of the full report.

There are two basic types of costing methodologies that a court should undertake in determining the cost-effectiveness of CAT. First, a court should compute whether a fully implemented system (all reporters at minimum acceptable production level and all anticipated hardware in place) will be capable of producing a page of transcript at the same or a lower transcription support cost than current manual procedures. The methodology presented in Figure 7 in the full report allows a court to compute per-page transcript support costs of preparing transcripts either manually or on CAT.

Secondly, a court should compute the number of years that will be required for any proposed CAT system to break even. That is, the point at which the system has paid for itself should be computed. This computation is important in decisions regarding whether a system should be leased or purchased as well as in the selection of a vendor whose system allows the court to break even at the earliest possible time. This latter methodology differs from the cost-per-page methodology discussed above, in that the former methodology assumes a system is fully implemented with all reporters trained and up to speed. The break-even point costing methodology allows the court to account for the learning curve of reporters as they are added to the system and to compute the actual anticipated production during system implementation. The computations involved in determining the break-even point for any given CAT system are depicted on Figure 8 in the full report.

Comparison of per-page costs for manual and CAT transcript production support

Courts contemplating the implementation of a court-sponsored CAT system should determine whether a fully implemented CAT system will be capable of operating in a cost-effective manner. While the actual cost per page, in instances where CAT will require a minor increase in cost, may not be the ultimate determinant of whether a court pursues CAT implementation (because of the perceived impact of intangible benefits accruing to the court from CAT), the methodology in the full report will indicate what the actual costs of a fully implemented CAT system will be in that particular court, compared to manual transcript production costs to the court.

The key phrase to remember in using this methodology is "a fully implemented CAT system." Fully implemented assumes that all reporters who will be going on the system have been fully trained and are producing at the same level as they did before CAT. It also assumes that all hardware that may be needed (additional CRTs, etc.) has been added. Hence, this methodology assumes an ideal state and ignores the costs and time involved in actually implementing the system. It will, however, tell you whether the system, once fully implemented, will be capable of operating in cost-effective manner. To use this costing methodology, several basic facts must be established, at least as estimates:

1. How many reporters will be using the CAT system?
2. What will be the minimum production required from each reporter per month on CAT? An accurate determination of the volume of transcript produced by each reporter is absolutely essential to setting a minimum production requirement.
3. What are the various costs associated with the CAT system being considered? (This costing must be completed for each vendor).

4. What portions of the CAT system will the court pay for and what portions will individual reporters be asked to pay for?
5. What rate will a reporter be charged for each page of transcript produced on the court's CAT system?
6. What is the cost to the court of any transcription support provided to reporters under the current manual system (e.g., supplies such as paper, typewriters, ribbons, binders, dictation equipment, etc.)?

Once these facts have been established, the court is ready to employ the costing methodology displayed in Figure 7 in the full report to determine the per-page costs for manual versus CAT transcript production support.

Calculation of break-even point for a CAT system

An alternative method of calculating the cost-effectiveness of a CAT system is to determine the number of months or years required from initial implementation of the system before the system will pay for itself and either remain a no-cost technology or provide revenue to the court for the potential replacement of the system with newer technology.

The costing methodology presented on Figure 8 in the full report provides the court with a simple means of determining the break-even point for any CAT system. It can be used to determine the break-even point for a purchased system or a leased system, if certain assumptions are made. These assumptions include the following:

1. All reporters going on the system should get up to speed at a relatively uniform rate. See Figure 9 in the complete report for methodology to compute system output during the first, second, and third year of operation.
2. All systems, regardless of the number of reporters added to the system, should be fully implemented within three years. (The methodology could be easily adapted to a longer implementation period).
3. Hardware is allocated in a ratio of one CRT for every three reporters using the system. (This too can be altered if the court so desires.)
4. The cost of CAT supplies (continuous-form paper, printer ribbons, cassettes, spare system disks, etc.) are computed at the rate of \$.07 per page of CAT production.
5. All costs are broken down into one-time front-end costs (e.g., purchase of hardware, purchase of steno recorders, reporter training, etc.) or annual

recurring costs (e.g., system maintenance, supplies, lease costs, software updates, etc.).

As in the costing methodology for comparing per-page costs for manual and CAT transcription support, which was discussed above, the court must be able to establish several basic facts as to number of reporters to use the system, their minimum monthly production, costs associated with each vendor's system, financial responsibilities, translation fees, and cost of manual transcription support. Once this information has been compiled and the assumptions listed above are considered, information should be filled in on Figure 8 (in the full report) and the appropriate calculations completed to determine the break-even point (years from day of implementation) for the system under consideration.

The methodology to determine the break-even point for leased or purchased CAT systems is divided into two parts. Figure 8, Part A in the full report permits the calculation of fixed front-end (one-time) costs associated with a given CAT system. Figure 8, Part B calculates the actual break-even point.

Section 4: Intangible and other benefits

Having determined in Section 2 whether the management of court reporting resources will permit efficient operation of a CAT system, and having assessed the financial costs of a CAT system in Section 3, the court administrator should now examine whether intangible benefits exist that could offset the expense of the computer system. The following are significant factors that should be considered:

1. Time savings and delay reduction
2. Transcript security
3. Setting of standards
4. Reporter morale
5. Cost control
6. Non-court benefits

Each is discussed in detail in the complete report.

Section 5: Examine alternate management strategies

Material presented in the case studies in Part II clearly indicated that the benefits to reporters of using CAT can be achieved without the court operating the system. A potential CAT user must consider whether court management, reporter management, or private agency management of CAT will be most appropriate for his particular environment. Each of these is discussed in the complete report.

Part IV: Implementing a CAT System

Once a court has determined that it is a viable candidate for sponsoring a CAT system (i.e., it can adequately manage its reporter resources and cost-benefit analysis indicates that the system should be cost-effective), planning for the possible implementation of a CAT system should begin. Part IV of the complete report presents implementation guidelines that should lead to a cost-effective operation. Guidelines of primary importance discussed in this part of the report involve the selection of an appropriate CAT vendor for your court, including points to be covered in a request for proposal (RFP), and the establishment and implementation of management procedures for your CAT system. Guidelines for system management are also included, and discuss the importance of appointing a CAT coordinator, of agreeing on the financial responsibility for all components of the CAT system, of screening reporters, of establishing monitoring procedures, and of executing implementation guidelines.

Figure 12 lists implementation milestones for a cost-effective CAT system. The full report contains two hypothetical examples of costs and cost break-even points associated with current CAT vendors, which illustrate the costs associated with and production levels necessary to run a cost-effective CAT system.

* * * * *

The report concludes with a glossary of terms and five appendices. Appendix A displays CAT system configurations and provides descriptions of each vendor's system as of January 1981. The abbreviated Appendix A included here contains only names and addresses of CAT vendors. Appendix B lists the state courts where CAT systems are operating and is included here. Appendix C (not included here) contains the production statistics for CAT systems involved in the production of both official court transcripts and free-lance work. Appendix D (not included here) contains guidelines provided by the National Shorthand Reporters Association for screening reporters to use CAT. Appendix E (not included here) contains computations as of January 1981 of net per-page costs for each vendor, using the hypothetical examples outlined in Part IV.

Figure 12: Implementation milestones for a cost-effective CAT system

- A. System planning (months 1-3)
1. Complete review of court and reporter commitment to a CAT system implementation as outlined in Part III of this report.
 2. Designate person in court responsible for making decisions regarding CAT procurement and designate CAT system coordinator. Duties of the CAT coordinator have been discussed in Section II above.
 3. Screen reporters for adaptability to CAT. (One screening tool provided by the NSRA is contained in Appendix D. This may not be totally appropriate for all vendors' systems; however, it will give a good indication of the reporters who are probably good candidates for CAT.)
- B. Issue RFP (month 3-4)
The system manager and CAT coordinator should jointly develop a request for proposal (RFP) to be sent to all CAT vendors (see listing in Appendix A). The contents of such an RFP have been discussed in Section I: Selecting a CAT Vendor.
- C. Lease/purchase decision; select vendor (months 4-8)
1. Receive bid information from various vendors.
 2. Solicit input from your reporters in reviewing RFP information.
 3. Determine comparative costs and features for all components and supplies for lease, lease/purchase, or purchase options offered by each vendor.
 4. Determine whether you will lease or purchase equipment and software.
 5. If funding is to be provided by multiple sources, including reporter guarantees of pages per month or translation fees paid by reporters, etc., enter into formal agreements with reporters and/or other funding sources.
 6. Select vendor and complete contract negotiations with vendor.
- D. System implementation (months 8-10)
1. Prepare site (install dedicated electrical circuit, air conditioning, antistatic mats, telephone(s), etc., as required by vendor selected).
 2. Receive steno recorder machines and issue to reporters. (month 8)
 3. Issue steno recorders to all reporters who will be going on the system. (month 8) As soon as received, steno recorders should be issued to all reporters going on the system regardless of when they will be going on. This will allow reporters to be taking active cases on CAT-compatible cassettes so that when their training cycle begins, they will have ordered transcripts to work on.
 4. Install CAT (will be done by hardware vendor in conjunction with CAT vendor).
 5. Hire scopers if decision has been made to use one.
 6. Establish and implement formal management and monitoring procedures (as discussed in Section II above).
 7. Begin system training (provided by CAT vendor, but will require having a scoper, if one will be used, and first set of reporters freed of reporting assignments).
- E. Initiate training/production cycle with first group of reporters. (month 10)
CAT coordinator and system manager review on at least a quarterly basis each reporter's productivity and progress to determine whether the reporter should stay on CAT. (months, 13, 16, 19, 22, etc.)
- F. Initiate training/production cycle with second group of reporters. (month 16)
CAT coordinator and system manager review on at least a quarterly basis each reporter's productivity and progress to determine whether the reporter should stay on CAT. (months, 19, 22, 25, 28, etc.)
- G. Initiate training/production cycle for third group of reporters. (month 22)
CAT coordinator and system manager review on at least a quarterly basis each reporter's productivity and progress to determine whether the reporter should stay on CAT. (months 25, 28, 31, etc.)
- H. On-going system management and monitoring.

Appendix A

CURRENT CAT VENDORS
January 15, 1981

Baron Data Systems
W. R. Hicks, Vice-President
1700 Marina Boulevard
P.O. Box 2193
San Leandro, California 94577
415/352-8101

Cimarron Systems
(Purchased by Stenograph Corporation as of 8/1/80)

Reporter's C.A.T. Systems, Inc.
Heinrich O. Comp, Jr., Partner
Suite 601, SCN Bank Building
Greenville, South Carolina 29601
803/271-0811

Stenograph Corporation
Mr. John Staton, Director of Marketing
7300 Niles Center Road
Skokie, Illinois 60077
312/675-1600

Translation Systems, Inc.
Patrick J. O'Neill, Jr.
Vice-President
121 Congressional Lane, Suite 412
Rockville, Maryland 20852
301/468-6505

Xscribe Corporation
Robert Mawhinney, President
443 West C Street
San Diego, California 92101
714/239-1641

Appendix B

CAT SYSTEMS IN THE COURTS
December 31, 1980

Courts with CAT systems in operation more than one year:

1. Philadelphia, Pennsylvania - Court of Common Pleas
370 City Hall
Philadelphia, Pennsylvania 19107

General jurisdiction, civil and criminal
System used: CAT, Inc. (presently being replaced)
Contact: Joe Harrison, Deputy Court Administrator
215/686-2525

2. Dallas, Texas - 203rd Judicial District
Dallas County Courthouse, Room 3141
500 Commerce Street
Dallas, Texas 75202

General jurisdiction, criminal division
System used: Baron
Contact: Mary Ann McNeel, CAT reporter
214/749-8561

3. San Antonio, Texas - 175th District Court
Bexar County Courthouse, 2nd Floor
San Antonio, Texas 78205

General jurisdiction, criminal division
System used: Baron
Contact: Archie Henson, Court Coordinator
512/220-2527

4. Sacramento, California - Court of Appeal, Third Appellate District
Library and Courts Building
Sacramento, California 95814

Intermediate appellate court
System used: Baron
Contact: Wilfried J. Kramer, Clerk
916/445-4677

5. Atlanta, Georgia - Superior Court of Fulton County
707 Fulton County Courthouse
Atlanta, Georgia 30303

General jurisdiction, civil and criminal
System used: Baron
Contact: Jack E. Thompson, Court Administrator
404/572-3116

6. Phoenix, Arizona - Superior Court of Maricopa County
101 West Jefferson
Phoenix, Arizona 95003

General jurisdiction, civil and criminal
System used: Baron
Contact: Gordon Allison, Court Administrator
602/262-3204

Courts with operating CAT systems installed in first half of 1980

1. Houston, Texas - Harris County Criminal Court
301 San Jacinto Steet, Room 807
Houston, Texas 77002

General jurisdiction, criminal division
System used: Baron
Contact: Charles Cameron, Court Administrator
713/221-6576

2. Baltimore, Maryland - Supreme Bench of Baltimore City (8th Circuit)
535 Civil Courts Building
111 N. Calvert Street
Baltimore, Maryland 21202

General jurisdiction, civil and criminal
System used: Baron
Contact: Doris Gaffney, Chief Court Reporter
301/396-5010

3. Salt Lake City, Utah - Third District Court
Courts Building
240 East Fourth South
Salt Lake City, Utah 84111

General jurisdiction, civil and criminal
System used: Stenograph Steno-CAT
Contact: Tom Betts, Court Administrator
801/535-7681

4. Charleston, West Virginia - Circuit Court (funded by Administrative
Office of the Supreme Court of Appeals)
Kanawha County Courthouse
Charleston, West Virginia 25305

General jurisdiction
System used: Baron
Contact: 1. Duane Price, CAT Reporter 304/348-7167
2. Fletcher Adkins, Deputy Administrative Director
Administrative Office of the Supreme Court of
Appeals 304/348-0145

Note: The Administrative Office of the Supreme Court of Appeal is
also making arrangements for official reporters to use a privately
owned Translation Systems, Inc., system.

5. Tulsa, Oklahoma - District Courts
Tulsa District Courts
Fifth and Denver
Tulsa, Oklahoma 74103

General jurisdiction, criminal
System used: Baron
Contact: Claude Smith, Court Administrator
918/584-0471, ext. 2300

Courts in the process of implementing CAT systems - 1/1/81:

1. Honolulu, Hawaii - First Circuit Court
417 S. King Street
Honolulu, Hawaii 96809

General jurisdiction, civil and criminal
System used: Translation Systems, Inc.
Contact: Anthony C. Ornellas, CAT Reporter
808/548-2802

2. Media, Pennsylvania - Court of Common Pleas
Delaware County Courthouse
Media, Pennsylvania 19063

General jurisdiction, civil and criminal
System used: Translation Systems, Inc.
Contact: Dr. Dennis Metnick
215/891-2011

3. Philadelphia, Pennsylvania - Court of Common Pleas
370 City Hall
Philadelphia, Pennsylvania 19107

General jurisdiction, civil and criminal
System used: Translation Systems, Inc.
Contact: Joe Harrison, Deputy Court Administrator
215/686-2525

4. Reading, Pennsylvania - Court of Common Pleas
Court House
6th and Court Street
Reading, Pennsylvania 19601

General jurisdiction, civil and criminal
System used: Translation Systems, Inc.
Contact: William R. Kase, Chief Court Reporter
215/375-6121, ext. 252

5. Pittsburgh, Pennsylvania - Court of Common Pleas
621 City-County Building
Pittsburgh, Pennsylvania 15219

General jurisdiction, civil and criminal
System used: Translation Systems, Inc.
Contact: Charles H. Starrett, Court Administrator
412/355-5410

6. Detroit, Michigan - Circuit Court (first-year funding provided by
Michigan Court of Appeals)
Wayne County Circuit Court
536 Lafayette Building
Detroit, Michigan 48226

General jurisdiction
System used: Stenograph Steno-CAT
Contact: 1. William C. Oliver, Chief Reporter
313/224-0409
2. Henry Hensen, Assistant Clerk, Court of Appeals
313/256-2780

Senator DOLE. I assume you indicate in your text or in the other documents we have whether or not the cost per page is less expensive, or maybe you do not have that information, and maybe also the calculations which would include the initial equipment cost and the ongoing costs of supplies and support personnel.

Mr. DELAPLAIN. Yes, sir. I believe that we supplied a copy of our report to your committee staff.

Senator DOLE. I have that.

Mr. DELAPLAIN. There is a more detailed version of that which I believe I also mailed. That will give you the per page costs of producing transcripts on current CAT systems.

One thing you might keep in mind is that CAT is only technically capable of addressing something on the order of 5 to 6 percent of the total cost to the court of producing transcripts. When you figure the cost of live reporters and the rest of the operation, you are really addressing the portion of transcript production costs that has to do with typists. As Mr. Kleps has indicated, that is the portion you can affect with CAT. The intangible benefits are potentially more significant to the court with the CAT system than are the cash saving benefits, and that has to do with the rapid delivery of the transcript and probably a better quality transcript.

Senator DOLE. Is there any feeling that the Federal courts should own, manage, and operate computer-aided transcription equipment?

Mr. KLEPS. I want to point out what I did say in my statement and I would like to repeat. If the Federal Government, on an experimental basis or otherwise, wanted to put in the upfront money and you had the other elements that Mr. Delaplain mentions, reporters willing to work at it, interested in doing it and if they paid the computer the 60 cents a page that they are paying their typists, with 4,000 pages a month going through it you carry the cost of the computer.

The price of these computers on a monthly lease or on a purchase if you financed over a 4- or 5-year period, could be paid for with 4,000 pages a month at 60 cents a page. The reporters are paying that to their typists anyway.

Senator DOLE. If this were done, could the courts rely on this system to consistently produce transcripts on a timely basis?

Mr. KLEPS. Yes. I agree with Mr. Delaplain. It is a management problem. Much of what you have heard here is a management problem. The computer does not solve that, but the computer will solve the delivery of transcripts if you can handle the management of it.

Mr. DELAPLAIN. The computer will produce the transcripts just as fast as the reporters want it to. There is no doubt that it is capable of producing the end product much faster than manual dictation and typing of transcripts.

Senator DOLE. If it is so effective, why do not more official reporters pool their resources and purchase the equipment? It seems like it would be a moneymaker for them.

Mr. KLEPS. It is starting that way. If the manufacturers can ever get down to the point where one reporter could afford it, I think it would go much, much faster. The business of getting two or three

reporters together as a unit is a very difficult thing to work out. They are not adjusted to that. They do not really want to do it.

The most successful uses of CAT is where there is a pooling. The Southern District of New York is the most successful one in the country. The next most successful one is in the Stockton Superior Court where eight reporters formed an organization and they are producing enough pages through the computer to easily carry it.

Mr. DELAPLAIN. I would concur with Mr. Kleps' comments. The Stockton situation, in particular, is essentially a freelance corporation. Those employees are not employees of a court. Their corporation has a contract with the court to supply reporters to the court on a daily basis to produce transcripts.

In both of these instances, Stockton and New York, I think one of the key elements is that they both make use of pooling of reporters. They both make sure that the reporters are not sitting around idle while there are other people who could be using the time to produce transcripts but are in court when they really do not have to be.

That is something we found again and again in State courts. It really got in the way not only of effective use of reporting resources but in the way of making the CAT system or any other transcript production system cost effective. Reporters have typically not been held accountable for their time.

Senator DOLE. Mr. Velde, do you have a question?

Mr. VELDE. Thank you, Mr. Chairman.

Mr. Kleps, do you know of any developmental work being done to produce or develop a new generation of stenotyping machines that would be more computer compatible?

Mr. KLEPS. I do not, but I am not quite sure I see what you are driving at. So long as you can produce the digital information and record it—

Mr. VELDE. Off the stenotype tape? However, I understand that your company and others have gone to considerable expense in getting the computer to be able to read the format and output of the machine. I am just wondering if anybody is doing any work to make the two more compatible, or do you think all those problems have been solved?

Mr. KLEPS. The key problem is what is on the computer disc storage.

Mr. VELDE. The particular jargon of each reporter using the machine.

Mr. KLEPS. Right. There is no standardization literally in the symbols that go in. Reporters develop symbols as they go along. They may start from the same base, but it is an individualized thing. The change in 1976-77 was to create a disk that has only one reporter's symbols on it. The reporters can put anything on it they want and get an accurate reflection of what the proceeding cassette has on it when the computer compares it.

There is also a theory that you can put a general or universal collection of symbols in and then add each reporter's separately. That is where the experimentation is now going on, I think. The most successful operations, I believe, are the ones where each reporter's symbols are within his own control. They can be modified and he can do anything he wants with his symbols.

Senator DOLE. I want to thank this panel and thank the others who have been here. I would say that the record will be open for an additional few weeks if there are supplemental statements. Someone may have had a brilliant thought listening to someone who had a different view. We would be happy to have those statements for the record. If others in the audience would like to submit a statement, we would be happy to receive those statements for the record.

At an appropriate time, we will determine whether or not there should be additional hearings and whether or not we should move to the next step, which would be to take a look at some legislative reform.

Thank you.

[The subcommittee adjourned at 4 p.m.]

APPENDIX

STATEMENT OF
ROSE ANN SHARP, PRESIDENT,
ALDERSON REPORTING COMPANY, WASHINGTON, D.C.
TO THE
SUBCOMMITTEE ON THE COURTS
SENATE COMMITTEE ON THE JUDICIARY
IMPROVEMENTS IN FEDERAL COURT REPORTING PROCEDURES

As an owner of the oldest court reporting firm in existence in Washington, D.C. and the most technologically advanced, I think that I have an unusual perspective that was not presented at the hearing.

As a result of the last series of hearings on Federal Court Reporting held by the House Judiciary Committee, a provision that the Federal Courts could use the contract system in securing its reporting services was adopted and included in the Federal Court Reporters Act. However this provision, to the best of my knowledge, has not been used to save the courts money but rather, as the GAO report notes, salaried court reporters employed by the courts are "using substitutes (reporters) rather than personally providing the services for which they were hired." In addition, as the GAO noted, there has been the practice of ineffective assignment of in-house reporters.

It is our position that the tools for success for cost savings lie not in selecting a "cheaper" method but rather in using the free enterprise system more effectively: the use of competitively bid contracts to procure these same services more efficiently and effectively.

We will briefly address the issue of methods of reporting in order to illustrate the insignificance of it in regard to the overall improvement that could be made by use of a contract system.

I. EFFECTIVENESS OF THE THREE PRIMARY METHODS OF COURT REPORTING

A. Direct Reporting

We currently and successfully use all three methods of court reporting that were discussed at the hearing. We were the first company to use sophisticated four-track direct reporting equipment that has subsequently been specified in the DOL/OSHA and U.S. Tax Court contracts because of their satisfaction with this equipment and method.

B. Computerized Transcription of Stenotype Reporters

We are the oldest shorthand stenotype firm and the first one to successfully implement the use of Computerized Transcription in Washington, D.C. While we have found this method to produce faster transcription in deposition work, we think it is not applicable to general court use because it requires reporters who have more consistent writing skills and fewer conflicts in their writing method than are available in any great numbers. This does not mean that it would not be applicable to those reporters who are willing to make the investment in their writing skills to perform well on the system. Rather we see a problem in forcing upon reporters a method to which some will

never be suited. Our experience, and that of other firms utilizing computer transcription, has been that only a small percentage of the most highly skilled reporters writes in a manner which can be efficiently processed by the computer.

C. Stenomask

We also employ a large number of stenomask reporters who successfully have reported all of the Intelligence Committee work of both Houses, as well as many Senate and House Committees. Our reporters use a method and equipment similar to what Mr. Gimelli called "his method" in his testimony. However, they use a mask rather than speak into an open microphone; we have found that our clients much prefer our method and find it less disruptive to the participants.

D. Magnetic Tape Transcripts Provided

We were the first firm to comply with the specifications issued by the House Information System of the House of Representatives and the separate specifications of the Senate Printing Office for magnetic tape. In many instances when we provide magnetic tape it is the software programs which we develop internally that provide the only available interface with major U.S. firms involved in sophisticated litigation support.

E. Conclusion on Selection of Method

What we have learned is that the conscientiousness of the reporter and the acoustics of the hearing location along with the subject matter are far more important than the method used. We select the method and the reporter to suit the hearing. We feel that being confined to one method of reporting imposes unnecessary restraints on the court reporter's ability to secure an accurate record and produce that record in a timely manner.

We were the first and are the only company to successfully integrate these three methods of reporting into its daily operation. I can truly say that our reporters each have a great deal of respect for the other's method and often say they would not want to go into the hearing environment that the other primarily reports.

We are confident that any of the methods mentioned can be used in a cost effective manner in the Federal Courts through the use of competitively bid contracts which provide for high quality standards.

Therefore with the issue of method set aside, I would like to address the quality and the cost effectiveness of the Federal Court system as it is today.

II. OPERATING ABUSES UNDER THE COURT REPORTERS ACT

There have been many newspaper stories of the difficulties of the Federal Courts in trying to operate under this Act. The principal difficulties have been that reporters have abused the federal system in the following ways:

1. Receiving large incomes in addition to their federal salary for the sale of transcripts either reported by them or through a percentage of the sales revenues by subcontracting of large cases (assigned to the official reporter) to substitute persons or firms;

2. Charging for the copy of the transcript at a rate in excess of the amount allowed under the Judicial Conference policy for transcript sales;
3. Using federal court space to conduct private, free-lance businesses; and
4. Leaving untranscribed hearing notes or developing two or three month backlogs of transcripts for cases that are pending. In instances where no transcript can be produced, convicted criminals are set free of penalty and imprisoned people are unable to file appeals to secure release from prison because no transcript was available on which to base an appeal.

Attached is a newspaper article dated June 29, 1981 about the Miami Federal Court which is typical of the lack of control by the Courts of their basic operations. If these cases had been reported under contract, the reporting firm would have posted a large performance bond to protect all hearing notes and tapes and guarantee transcription within the time table established for transcript delivery. Most government reporting contracts provide for large penalties for each day a transcript is late. The average delivery time of these contracts is ten business days. These penalties are assessed on each day the transcript is late and deducted immediately from the revenue paid to the contractor for the transcript.

III. EXAMPLES OF CONTRACT PRACTICES WHICH COULD REDUCE FEDERAL COSTS IN COURT REPORTING SERVICES

Under the Court Reporters Act, the officially appointed reporter receives a salary ranging from \$28,741 to \$31,615, plus approximately \$2,000 in benefits, depending upon longevity and reporting experience. The large sums of "sales" money received, in addition to their salary, by the court reporters do not contribute to the reduction in costs of the government or to reduce the cost to purchasers of transcripts in the cases before the Courts.

A. Cost to the Court (Agency) Procuring Services

The way the contract system works can be seen by looking at the Supreme Court contract. It has been competitively bid for the last five years. The Supreme Court has been provided its copy for no charge and the parties have paid a rate bid by the reporting firm which is not in excess of the Judicial Conference rates (although they do not apply here). There are no salaried reporters serving the Supreme Court. Yet the cost effectiveness to all parties and the court is clear; the transcripts are delivered on time and quality control is exercised by the Supreme Court's right to terminate or default the contractor. Sample rates under similar contracts currently in effect are: ITC which pays 32¢ for original pages; FERC which pays 30¢ for original pages; the ICC which pays 93¢ for original pages and the NLRB 35¢ for original pages. Most of these rates are subject to further prompt payment discounts.

It is to the advantage of the government and the public that the money spent on providing these services be used to keep costs to the government and the public down rather than to provide further income to the well salaried official reporters who are government employees.

The cases in the Federal Courts have produced more transcript sales income to the court reporters than the cases in the

Supreme Court, but all these funds have gone to the court reporters and none have gone to reduce the costs of the government or to reduce the price of transcripts to the public.

B. Costs for Expedited Transcript Deliveries

Delivery of most transcripts in the Federal Courts is very slow, running from several weeks to several months. Any transcript delivered to a party in less than 30 days is considered expedited delivery and is very expensive.

It has been the practice of the Federal Court reporters, in the event of a large case with several sales of transcripts involved to "sell" the case to one of the reporting firms for a percentage of the transcript sales. The official reporter takes a vacation while continuing to receive his Court salary and collect his percentage from the reporting firm.

In one case this year before a Federal District Court, our firm offered the official reporter a minimum of \$5.00 per page for a large case. While we do not know how much more than this the successful bidder offered, our offer provides a clear indication of the minimum amount of extra income paid to this reporter by his "substitute." Newspaper accounts of this case indicate it has run 175 pages per day; thus the official reporter is earning a minimum of \$875.00 per day in addition to his salary. This case has been running for the last five months so that he has earned a minimum of \$87,500.

In effect, the official court reporter awards his larger, daily cases in the same manner in which McDonald's awards a prime franchise: it goes to the highest bidder from the private firms. The private firms cannot solicit these cases directly, but must work through the reporter assigned to the Judge hearing the case. The firms are aware of the larger, long-running cases and usually bid on them. The official court reporter awards the job to the bidder who offers to pay the court reporter the highest percentage of the sales.

Under the contract system, firms bid for contracts from government agencies with the knowledge that certain agencies handle specific types of large cases. For example, the National Mediation Board pays 70¢ for daily delivery of transcripts and each sale party pays 71¢ per page for a copy of its daily transcript.

There are numerous other federal contracts under which our firm and others provide court reporting services. I am confident that the services procured under these contracts cost less than those provided under the Federal Court Reporters Act.

C. Use of Advanced Technology

On the larger cases there is no question that the private firms already have the advanced technology to produce the additional computerized services.

The Federal Courts and the parties in the Federal Court cases are securing the benefits of this new technology but they are getting this advantage by entrance through the back door. It is provided by the reporting firms who are brought in by the court reporter while he is taking a vacation or working on freelance work.

IV. ANALYSIS OF COSTS FOR FEDERAL COURTS

There are 575 court reporters in the Federal District Court system; they are paid approximately \$33,000 each or a total cost of \$20,000,000. This is just for being present in the courtroom and taking down the proceedings. If one or more of the parties orders a written transcript of the proceedings, the reporter receives the revenue from the sales to the party and is supposed to provide a free copy to the Judge.

There were 54,000 days of hearings in the Federal Court system during the past year, or 93 days of work for each reporter, or 1.7 days per week. At a salary of \$33,000 this is \$354 per day which each reporter receives for reporting the hearing (not transcription of notes into transcript form). For a work week which consists of 1.8 days of work, each reporter is paid \$637 per week.

Under the contract system if there was a request for a write-up of transcript on each day, there would be no charge at all to the government because private firms usually offset the attendance fee against the revenue from sales of the transcript. However, assuming that in half the 54,000 days there were no write-ups, there would be a charge of approximately \$100 per day, the present customary charge by reporting firms, for 27,000 days, or a total of \$2,700,000, for a saving by the contract system of \$17,300,000. This would be a minor part of the saving, the largest saving would be in the transcript rates to the parties.

Where the case is between a public utility and the government, these unconscionable costs are shifted to the utility's customers, because the charges become a part of their rate base, and to the taxpayers who are paying the costs of the government agency prosecuting the case.

V. ROLE OF THE GENERAL ACCOUNTING OFFICE

A tremendous amount of credit for the low cost of reporting when the government deals directly with the reporting firms must go to the GAO. The reporting of the Executive Branch of the Federal Government, including all the departments and the regulatory agencies, the U. S. Court of Claims and the U.S. Tax Court, is done by the contract method. The only exceptions, of which I am aware, are two reporters employed on salary by the State Department.

A. In Government Agencies

The GAO, for many years, has supervised the entire reporting contract system. Any reporting firm which wishes to make a protest of any action under the bidding system, such as determination of the low bidder, unclear contract provisions or any matter such as a question of unfairness or improper procedure must file a protest at the GAO within a specified time and a decision is usually rendered shortly after a full investigation of the protest is made.

B. In Congress

For many years the Congress has relied upon the GAO's reports in setting the rates paid to the firms reporting Congressional committee hearings. For these reports, the GAO sends crews of staff accountants to the offices of the reporting firms to make a full study of reporting costs to the Senate Committee on

Rules and Administration and the House Administration Committee. These committees set the rates based on the GAO recommendation.

This procedure has given the GAO a very intimate and detailed knowledge of reporting costs gained through making these cost studies for more than 30 years. Studies produced by the GAO in regard to the cost difference between private firms and salaried reporters have been instrumental in preventing the establishment of salaried reporting units in the Executive Branch of the government. Apparently they have had no success in the Judicial branch of the government.

VI. CONTRACT REPORTING IN THE SENATE

The Senate has never appointed salaried reporters for the reporting of its committees. All the reporting is done by private reporting firms. The Senate has always taken full advantage of the competition among the reporting firms. The practice has been to let committees or subcommittees select the reporting firm that best meets their needs. If they are not satisfied with the quality of the service provided, they do not hesitate to shift their work to another firm.

In 1979 the Senate Committee on Rules and Administration amended the rates for private firms which were set in 1976 by stating a "maximum" rate and asked each committee to endeavor to secure competent firms at lower rates through the solicitation of proposals on their reporting requirements.

The reaction of the committees was slow for a time but this program was accelerated by the effort of the Senate leadership in the spring of 1981 to reduce the Senate's costs generally. Depending upon the technicality and classification of the committee's work, this has been very successful.

The reporting firms had been urging this upon the Congress for many years, particularly in the House of Representatives. The Congress could greatly reduce its cost if the House's rates reflected revenue from sales. For example, the Clerk's Office listed \$61,000 revenue last year from public sales made by their Official Reporters. If this money were put toward costs of reporting under a competitively bid system, the cost savings are obvious.

Regrettably the House of Representatives has not followed the procedures of the Senate and still maintains a staff of highly salaried reporters, appointed on a patronage basis, in spite of many critical reports of the GAO and in one case the GAO's highly critical testimony before the House Administration Committee.

VII. PROPOSALS

1. I believe that optimum savings to the Government and the public would be achieved through terminating all arrangements for the appointment or hiring of reporters by the Courts and substituting competitive bidding. I would suggest that a test of this system might be conducted in a single judicial district, such as Washington, D.C., where there are numerous reporting companies eager and competent to handle all the needs of the courts.

2. A less satisfactory solution, but one which would end much of the abuse, would be to provide that the parties to a case, including the United States Government, could agree to bring in

a substitute court reporter if they obtain a rate which is lower than the official reporter proposes to charge for the same service, including the free copy to the Court.

3. The abuses would be substantially controlled and more closely monitored if there were a requirement that whenever the official reporter proposes an arrangement which is other than or different from his obligation to provide reporting and transcription services personally at the rates provided by the Administrative Office of the U.S. Courts, he must specify that other or different arrangement, including all of the charges therefor, in a writing distributed in advance to the Court, each of the parties and the Administrative Office.

END