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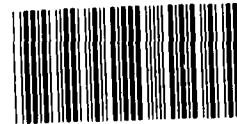
# Comptroller General

OF THE UNITED STATES

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## Implications Of Electronic Mail For The Postal Service's Work Force

Electronic mail, an emerging development in telecommunications, could significantly reduce the Postal Service's labor force over the next 20 years. The largest reduction could be expected if the private sector offers electronic mail services and the Service does not participate. If these projections prove correct, however, the large number of employees becoming eligible for retirement during this period, as well as normal attrition, should allow the Service to reduce its work force without major layoffs.



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

B-114874

The Honorable William L. Clay  
Chairman, Subcommittee on  
Postal Operations and Services  
Committee on Post Office and  
Civil Service  
House of Representatives

Dear Mr. Chairman:

This report, which was prepared in response to your February 29, 1980, request, addresses how the U.S. Postal Service's labor force may be affected by the Service's level of involvement in the electronic mail market. The report also provides information on other factors potentially affecting the labor force over the coming years.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days from the date of the report. At that time we will send copies to interested parties and make copies available to others on request.

We are available to discuss our findings and to provide any further assistance you might need.

Sincerely yours,

A handwritten signature in black ink, appearing to read "James A. Starks".

Comptroller General  
of the United States



COMPTROLLER GENERAL'S REPORT  
TO THE SUBCOMMITTEE ON POSTAL  
OPERATIONS AND SERVICES  
COMMITTEE ON POST OFFICE AND  
CIVIL SERVICE  
HOUSE OF REPRESENTATIVES

IMPLICATIONS OF ELECTRONIC  
MAIL FOR THE POSTAL SERV-  
ICE'S WORK FORCE

D I G E S T

By the year 2000, the U.S. Postal Service's labor force could be reduced significantly due to increased mechanization, improved productivity, and most importantly, the potential diversion of First Class Mail volume to electronic delivery systems.

The estimated labor force reductions are not unlike those achieved since the Service's 1971 reorganization. Because of the increased mechanization and corresponding productivity increases, the Service has been able to reduce workyears by almost 53,000 since 1971. This reduction was accomplished through attrition with minimal impact on employees. And, unless unforeseen technological advancements occur which force the Service to take alternative measures, future retirements and other attrition offer a similar opportunity to reduce the Service's workforce without resorting to major layoffs.

GAO assessed the potential impact on the labor force of varying degrees of Service participation in the electronic mail market. The degree of this participation is fraught with many uncertainties, such as the extent and timing of the electronic mail market; how much mail volume could be diverted by private enterprise; and what new forms of communication may be generated by electronic mail. With this in mind, GAO's study focused on "what might be" given today's knowledge of potential future occurrences. (See ch. 3.)

GAO's assessment focused on the Service's possible involvement in electronic mail. Other internal and/or external factors, however, may affect the labor force more severely or more rapidly than electronic mail, including:

--Streamlined operations--The Service's introduction of new customer presort programs and its plans to increase the mechanization of mail processing and otherwise reduce the amount of manual processing steps required will decrease the number of employees needed. (See pp. 30 to 32.)

--Increased mail diversion to alternative delivery systems--More and more, mailers find lower cost and faster alternatives to the Service's delivery system, thus reducing the rate at which the Service's mail volume has been increasing. If mail volume stabilizes or eventually decreases and the Service's productivity increases, fewer employees will be required to move the Nation's mail. (See p. 32.)

--Potential service cutbacks--The Congress, in an effort to balance the 1981 Federal budget, seriously considered reducing the number of delivery days from 6 to 5. Although not approved, service cutbacks remain an alternative to increased postage rates or a higher Federal subsidy. This action would reduce the number of employees needed to deliver the mail. (See p. 34.)

#### THE POSTAL SERVICE'S ROLE IN ELECTRONIC MAIL STILL UNCERTAIN

Electronic mail appears to be an inevitable technological advance, whether or not the Service offers such service. In and of itself, or as part of an automated office, electronic mail represents a response to businesses' demand for faster and less costly communications capabilities. (See p. 14.)

As yet, however, the Service's role in electronic mail remains undefined. Although endorsed by the previous administration and discussed in the Congress, postal efforts to enter the electronic mail market through its E-COM (Electronic Computer Originated Mail) and INTELPOST electronic mail services have been slowed by the regulatory processes of the Federal Communications Commission and the Postal Rate Commission. (See ch. 2.)

AGENCY COMMENTS AND  
GAO's EVALUATION

In commenting on the report, the Postmaster General expressed reservation about GAO's use of econometric models or other forecasting techniques to project the conditions, 20 years from now, in an area like electronic mail. He felt that the report's projected data on mail volumes and workyears must be considered "guesstimates" to be used with great caution. Additionally, the Postmaster General expressed concern about GAO's assessment that with proper planning postal work force reductions could be achieved with minimal impact on employees. (See app. III.)

GAO recognizes that the future impact of electronic mail on the postal labor force can not be predicted with any certainty. However, GAO believes that its predictions establish a useful framework for policy deliberations. While GAO shares the Postmaster General's concerns and recognizes the uncertainties inherent in any prognostication of this kind, GAO believes that it used the best methodology and data available to provide the information within the time frame requested. (See p. 28.)

Both the Postal Rate Commission and the Federal Communications Commission made suggestions for clarifying the report. (See apps. IV and V.)





C o n t e n t s

		<u>Page</u>
DIGEST		i
CHAPTER		
1	INTRODUCTION	1
	What is electronic mail and what is the Postal Service doing about it?	1
	Objectives, scope, and methodolgy	4
2	THE POSTAL SERVICE'S LARGEST PROBLEM-- WHAT ROLE, IF ANY, WILL IT PLAY IN ELECTRONIC MAIL?	6
	Congressional sentiment for establishing the Postal Service's role in electronic mail	6
	Regulatory process slows Postal Service's participation in electronic mail	8
	Administration endorsed Postal Service electronic mail efforts	12
	Use of electronic mail will increase with or without Postal Service participation	14
	Conclusion	17
	Agency comments and our evaluation	18
3	IMPACT ON THE POSTAL SERVICE'S LABOR FORCE: HOW MUCH? HOW SOON?	19
	Methodology for assessing labor force impact	19
	Employee reductions depend on Postal Service participation levels	25
	Conclusion	28
	Agency comments and our evaluation	28
4	OTHER FACTORS POTENTIALLY AFFECTING THE POSTAL SERVICE'S LABOR FORCE	30
	Customer presort reduces required processing steps	30
	ZIP code expansion allows increased mechanization to speed processing	31
	No class of mail immune from alter- native delivery systems	32
	Mail delivery--5 days or 6?	34

		<u>Page</u>
	Postal Service efforts which may minimize impact on employees	36
	Conclusion	37
APPENDIX		
I	Chronology of regulatory actions associated with implementation of E-COM and INTELPOST services	38
II	Letter dated August 22, 1980, from the Postmaster General	43
III	Letter dated December 15, 1980, from the Postmaster General	47
IV	Letter dated December 5, 1980, from the Chairman, Postal Rate Commission	49
V	Letter dated December 8, 1980, from the Chief, Common Carrier Bureau, Federal Communications Commission	56

#### ABBREVIATIONS

E-COM	Electronic Computer Originated Mail
EMSS	Electronic Message Service System
FCC	Federal Communications Commission
GAO	General Accounting Office
IBM	International Business Machines
ITT	International Telephone and Telegraph
PRC	Postal Rate Commission
RCA	Radio Corporation of America
TRT	TRT Telecommunications Corporation
USPS	United States Postal Service

## CHAPTER 1

### INTRODUCTION

As the information age of the 1970s and 1980s progresses, businesses continually seek ways to increase the productivity of their information exchange activities. Rapidly changing technology increases productivity by introducing newer, faster, and less expensive means to process and to communicate information. Electronic mail is an emerging part of the broader information services which are now developing in the telecommunications industry.

#### WHAT IS ELECTRONIC MAIL AND WHAT IS THE POSTAL SERVICE DOING ABOUT IT?

The most widely known forms of electronic mail are telegrams, mailgrams, and telex/TWX services. All three services provide for electronic transmission of messages input by telephone, magnetic tapes or discs, or teletype-writer equipment. On the receiving end, output is printed for hand delivery, printed on the recipient's own Telex/TWX equipment, or, in some cases, telephoned to the recipient with hardcopy delivery at a later date.

Less familiar but rapidly increasing forms of electronic mail, especially for intracompany communications, include facsimile and communicating word processor equipment. Facsimile is the method by which alphanumeric or graphic information (either printed or handwritten) is inserted into a machine and electronically transmitted to a remote location where it is reproduced. Communicating word processors permit the user to put words or characters on paper and communicate the information electronically. Generally, information is typed, edited, and stored in the machine with remote retrieval in either conventional hard copy or on a recipient's terminal screen. The recipient reads the message on the terminal and either stores the information in the computer's memory or prints a hardcopy to be filed in the normal manner.

#### The Postal Service's efforts to enter the electronic mail market

The Service's attempts at introducing electronic mail services to meet the public's increasing communications needs and to stem private enterprise's diversion of mail began in the late 1960s. At that time, the Service initiated feasibility studies of electronic communications to

increase productivity and efficiency of mail service. These studies aided the Service in undertaking or considering four current electronic mail efforts--Mailgram, E-COM, INTELPOST, and EMSS--briefly described below.

#### Mailgram

Initially proposed in 1968 and offered to the public in 1970, Mailgram is a joint offering by the Postal Service and Western Union. Although Western Union manages, markets, and controls Mailgram service, it contracts with the Service to provide nationwide delivery services.

The customer inputs his message by either telephoning Western Union, supplying it with magnetic tapes or discs, or by using his own Telex/TWX equipment. The cost is \$1 to \$2.80 for a message of 50 words or less. Western Union processes and transmits the message to a postal installation for next business day delivery. Western Union is responsible for accepting, processing, and transmitting the message while the Service is responsible for printing, enveloping, and delivering the output.

#### E-COM

In 1977, the Service considered a Mailgram-type service called Electronic Computer Originated Mail, better known as E-COM, which it would manage, market, control, and contract for required transmission services. E-COM would be directed to large volume mailers who would pay a 1978 estimated rate of \$.30 to .55 per message for the first page depending on total monthly volume.

As E-COM was originally proposed, the Service would accept customers' nonhardcopy messages (stored on magnetic tape or disc or transmitted directly to the Service's computer equipment) and electronically transmit these messages via communication carrier's lines to any or all of 25 serving post offices. Once received at the postal facility, the message would be printed, enveloped, and placed in the normal mail stream for delivery within 2 business days.

Although implementing steps began in September 1978, when the Service filed its proposal with the Postal Rate Commission, the regulatory and judicial processes,

plus the time needed to implement E-COM in practice, have delayed E-COM's operation until January 1982. The service to be implemented is described on page 10.

#### INTELPOST

In August 1977, Comsat <sup>1/</sup> proposed a high speed, computerized facsimile system to process messages between the United States and foreign countries. As originally conceived, two Service facilities would accept hardcopy messages for contracted carrier transmission to one of seven foreign countries. The receiving postal facility would envelope the message and place it in the normal delivery stream. Each foreign country could transmit to the United States but not among themselves, thus making the United States the focal point.

Preliminary United States to London testing began in July 1979, but the regulatory process prevented commercial testing until September 1980. The service, as modified in September 1980, is described on page 12.

#### EMSS

The Electronic Message Service System (EMSS) is the Service's long-range, multimedia electronic mail program for next day delivery of 95 percent of the letter mail it handles. Basically, EMSS is an evolution of E-COM. However, in addition to accepting tapes, discs, and direct computer input, EMSS also accepts hardcopy for contracted carrier transmission to 1 of the 87 proposed postal locations. At the receiving facility, the message is printed, enveloped, and prepared for carrier delivery.

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<sup>1/</sup>Comsat (Communications Satellite Corp) is a federally chartered corporation created to participate in the development of an international satellite communications network. Of its 16 orbiting satellites, 10 handle international communications, 3 link ships at sea, and 3 are leased for domestic telephone calls.

Although the Service studied electronic mail feasibility since the late 1960s, it did not begin to formalize the EMSS concept until 1976 when the Service awarded a contract to define an electronic mail system and identify a proposed configuration. As this study proposed, EMSS will be a five-phased system with incremental site implementation. The Service expects the first 15 sites to be operational around 1985. It also plans full implementation at 87 sites in the early to mid-1990s and expects annual mail volumes of about 25 billion. As of May 1980, the Service has spent about \$18.9 million and estimates total system cost to be about \$1.8 billion (in 1978 dollars) by the mid-1990s.

As mentioned above, the regulatory and judicial processes have delayed the Service's efforts to enter the electronic mail market. These delays have provided a greater opportunity for private enterprise to initiate new electronic mail systems and to potentially divert additional mail volumes from the Service.

#### OBJECTIVES, SCOPE, AND METHODOLOGY

Because of congressional concerns, the Chairman, House Subcommittee on Postal Operations and Services, requested us to assess the potential labor force impact resulting from the Postal Service's participation--or lack of participation--in the electronic mail market.

Since the Service's specific role in electronic mail remains undefined, we assessed the potential labor force impact for the period 1985 to 2000 on the basis of varying participation levels ranging from no Service participation in the electronic mail market to total Service participation. To accomplish our assessment we

- discussed current and proposed electronic mail systems with Service officials, representatives from private enterprise, congressional staffs, and other Federal agencies;
- monitored extensive legislative, judicial, and regulatory proceedings relating to electronic mail; and

--reviewed prior mail diversion studies, developed an estimated mail volume to be diverted from the Service's mail stream, and inputted our diversion estimate and other assumptions into a Service econometric computer model to develop our estimated impact.

Our assessment approach is described at greater length on pages 19 to 25.

We did our work at Postal Service headquarters in Washington, D.C., and its Research and Development Laboratories in Rockville, Maryland.

## CHAPTER 2

### THE POSTAL SERVICE'S LARGEST PROBLEM--WHAT

#### ROLE, IF ANY, WILL IT PLAY IN ELECTRONIC MAIL?

The U.S. Postal Service, a quasi-governmental corporation created by the Postal Reorganization Act of 1970, is a labor intensive service organization employing about 660,000 persons. These employees collect, process, transport, and deliver about 100 billion pieces of mail annually.

The act obligates the Service to provide postal services that bind the Nation together through the personal, educational, literary, and business correspondence of the people and to provide prompt, reliable, and efficient services to patrons in all communities, including rural areas and small towns where post offices are not self-sustaining. To accomplish its mission, the Service has been developing and using newer and faster methods of mail processing and transportation. To meet the public's ever increasing communications needs, the Service believes that it must now take advantage of current technology and participate in the electronic mail market. The Service views electronic mail as the next logical technological step from hardcopy air transportation.

Many governmental bodies, including the Congress, regulatory agencies, and the administration have considered the Service's potential role in the electronic mail market. Regardless of the Service's ultimate participation, however, electronic mail delivery systems will develop to meet the public's communications needs.

#### CONGRESSIONAL SENTIMENT FOR ESTABLISHING THE POSTAL SERVICE'S ROLE IN ELECTRONIC MAIL

Electronic mail has received considerable congressional attention. Annually, since 1977, one or more congressional committees have held hearings to receive information regarding the Service's potential role in electronic mail. Early diversion estimates of potentially large volumes of First Class Mail to delivery systems other than the Service resulted in congressional hearings, but the Congress has yet to decide what role would best serve the American public and the Service. For example:

- In September 1976, the Congress formed the Commission on Postal Service to identify and study problems facing the Service and to recommend actions to resolve those problems. In its April 1977



report, the Commission concluded "that [mail diversion] impact will be of sufficient magnitude to constitute a major threat to the basic business of the Postal Service. Procrastination by the Postal Service to a time when a significant volume has been diverted and the magnitude of the impact can be verified will be too late for the Postal Service to take positive action." Further, the Commission recommended "that the Postal Service make a strong commitment to begin development and undertake demonstration projects in electronic communications in cooperation with Government and private industry."

- In his introductory remarks to the May 1977 Electronic Communications hearings, the Chairman, Senate Subcommittee on Energy, Nuclear Proliferation, and Federal Services, stated "The biggest question before us is, 'What role should the Government, and specifically the U.S. Postal Service, play in this communications revolution?'"
- The Chairman, House Subcommittee on Communications, testifying in April 1977 before the House Subcommittee on Postal Operations and Services, warned of higher postal rates, increased postal subsidies, or layoffs of postal employees resulting from private enterprise's diversion of First Class Mail. Further, he offered his committee's help in "trying jointly to forge an information transmission policy for the last decades of the 20th century \* \* \*. What we've got to make certain in trying to take this Nation into the future, is that we don't establish a lot of governmental obstructions, which have too often delayed progress in the past."
- In commenting on the proposed Postal Service Amendments Act of 1978, the Senate Commerce Committee once again stressed that "the Congress must determine what the role of the Postal Service should be in a national communications network which increasingly relies on electromagnetic transmission as a method of communication."
- In April 1978, we testified before the House Subcommittee on Postal Personnel and Modernization and presented our views on the potential Service application of electronic systems for transmitting mail. We stated that "since electronic technology has the potential for reducing mail handling costs and offering better service, we believe the Service has little

choice but to continue its efforts to use this technology. Further, a more efficient Service would have the added benefit of minimizing the volume of mail that would be diverted."

--In May 1979, the Deputy Postmaster General testified before the Senate Subcommittee on Communications and said "the Postal Service recognizes that the postal use of electronic communications raises public policy questions on the role of USPS vis-a-vis the private sector--issues that should be resolved by the elected representatives of the people. And as I said earlier the Postal Service does not intend to take any irreversible steps or spend any huge sums of money in developing electronic communications without some indication from the President and the Congress that it is heading in the right direction."

--From January to April 1980, the House Subcommittee on Postal Personnel and Modernization held a series of hearings on the developing role of the Postal Service in electronic message systems. The Chairman said that "[f]ailure of the postal service to take advantage of newer developing forms of telecommunications would have serious consequences in terms of mail volume, finances and employment \* \* \*. These public hearings represent an effort by this Subcommittee to come to grips with this important issue."

Generally, congressional postal oversight subcommittees favor Service involvement in electronic mail largely because it should improve efficiency and productivity and reduce transportation costs. Congressional communications oversight subcommittees, however, believe the Service should participate only in terms of physical hardcopy delivery through its existing nationwide delivery network. These communications subcommittees view the Service's efforts to fully enter the electronic mail market as potentially anticompetitive, which is contrary to the Federal Communications Commission's goal of encouraging competition in the telecommunications industry.

REGULATORY PROCESS SLOWS POSTAL  
SERVICE'S PARTICIPATION IN  
ELECTRONIC MAIL

Generally, the Postal Rate Commission (PRC) regulates postal concerns and the Federal Communications Commission (FCC) regulates the communications industry. Electronic

mail, however, overlaps both domains, and the PRC and FCC involvement in this issue spans more than 24 months. 1/

Regulatory actions of the  
Postal Rate Commission

In addition to creating the Postal Service, the Postal Reorganization Act created the Postal Rate Commission as the regulatory body having jurisdiction over proposed postal rates and mail classification matters. The Postmaster General, on behalf of the Postal Board of Governors, submits proposed changes to the PRC. The Commission, in turn, holds hearings to gain information from the Service, users of the mails, and an Officer of the Commission who represents the interests of the general public. These proceedings must be conducted under the trial-type hearing provisions of the Administrative Procedure Act, and the parties consequently enjoy substantial rights to confront and cross-examine each other's witnesses. When hearings are completed, the PRC renders an opinion and recommended decision to the Governors of the Postal Service.

The Governors then accept, reject, or allow under protest the PRC recommended decision. If accepted, the change is scheduled for implementation. If rejected or allowed under protest, the proposal is resubmitted, possibly with suggested modifications, for PRC reconsideration. On receiving a second recommended decision, the Governors have the same options available as for the first decision, but they may also modify it by unanimous vote in specified situations. The Governors' decision, however, is subject to judicial review if appealed by a party to the PRC proceedings.

This process can take as little as 3 months or as long as 19 months or more as was the case with the E-COM decision. 2/ The Service initiated the E-COM proceedings on September 8, 1978, when it filed its proposal with the PRC. The case consumed 29 days of testimony plus additional time

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1/Appendix I presents a chronology of major E-COM and INTEL-POST events relating to both the PRC's and the FCC's actions spanning a 3-year period.

2/Because E-COM is a domestic service, the Service was required to submit this proposal to the PRC. INTELPOST, on the other hand, is an international service subject to international treaty and, therefore, is not within the PRC's jurisdiction.

for the prehearing conference and oral argument. Fifteen months later, on December 17, 1979, the PRC issued its Opinion and Recommended Decision with three commissioners agreeing and two offering dissenting opinions and recommendations.

The PRC endorsed the Service's participation in the electronic mail field, but recommended an alternative E-COM proposal which would not allow the Service to enter into a sole-source contract for E-COM transmission services. The PRC proposal would permit any willing and able common carrier to connect with the Service's facilities. The alternative proposal also provided for the needed data processing facilities to be directly controlled by the Service itself.

Two months later the Board of Governors responded to the PRC and agreed that the telecommunications segment of E-COM should be obtained through full and free competition among common carriers and that the Service's delivery system should be available on a nondiscriminatory basis to all who wished to use it. Prior to fully accepting the PRC decision, however, the Governors requested clarification of the decision and requested that E-COM be implemented as a permanent service.

On April 8, 1980, the PRC issued its second recommended decision which provided the clarifications requested but denied recommending E-COM as a permanent system.

On August 15, 1980, after several months of closed-session discussions, the Board of Governors agreed to allow under protest and to seek judicial review of the PRC's recommended decision of April 8. The Governors approved E-COM's implementation but objected to the PRC's recommendation that E-COM be implemented on an experimental basis with termination scheduled for October 1984. Consequently, the Governors petitioned the U.S. Court of Appeals for the District of Columbia Circuit to set aside that part of the PRC recommended decision.

In addition to the court petition, the Governors directed the Service to prepare further evidence for PRC consideration to incorporate direct mailer connections and over-the-counter acceptance of customers' magnetic tapes. The Board of Governors view these features as essential to the E-COM service in a form fully satisfactory to them.

If no further delays are encountered, E-COM is scheduled for implementation in January 1982--40 months after the initial proposal was submitted.

Regulatory actions of the  
Federal Communications  
Commission

The FCC believes, as do the congressional communications subcommittees, that the Service's efforts in telecommunications fall within its jurisdiction. The Service, however, believes that the PRC is the body having regulatory jurisdiction and the FCC's actions result in dual regulation in the case of E-COM. The FCC's involvement in E-COM, as well as INTELPOST, has affected the Service's implementation of these systems. Although the Service originally planned to inaugurate E-COM in December 1978 and INTELPOST in November 1979, it was not until September 1980 that the Service implemented a modified form of INTELPOST on a test basis and, as previously noted, it does not plan to implement E-COM until January 1982.

The Service considered Western Union as the most appropriate contractor for the proposed 15-month test of E-COM service because of existing equipment at selected facilities for the Mailgram program. Therefore, on September 15, 1978, Western Union notified the FCC of its intentions to provide E-COM service. Over the next 12 months, the FCC rejected Western Union's request and required that a tariff be filed, twice rejected the Western Union tariff filing, and asserted jurisdiction over the entire E-COM service, including physical delivery of the hardcopy output.

The FCC considered its actions on the E-COM service as necessary because it feared that the Postal Service would attempt to interpose the Private Express Statutes <sup>1/</sup> as a barrier against other entities' physical delivery of hardcopies of record messages transmitted by electronic means (for example, computer to computer transmission output). Additionally, the FCC feared that the Service might employ its dominant position with respect to the physical delivery of hardcopy in a discriminatory manner to the advantage of its transmission vendor and to the disadvantage of all other transmission companies and their customers.

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<sup>1/</sup>See page 32.

The Service, objecting to what it believed was dual regulation, sued the FCC in October 1979. In October 1980, the Court of Appeals vacated the FCC order and dismissed the suit as moot because the E-COM system to be implemented differs from the one over which FCC originally asserted jurisdiction. The jurisdictional issue, however, could arise again in connection with a different offering. Therefore, final settlement of this issue may be far in the future.

Not only have the FCC rulings complicated E-COM's implementation, but they also have delayed the Service's participation in INTELPOST. As originally conceived, the United States would have been the focal point of the international communication service. The Service planned to contract with international record carriers to provide the transmission services. These international record carriers, however, must file with the FCC prior to providing transmission services for the commercial testing of INTELPOST. These filings began in August 1979 and the FCC not only rejected these tariffs twice but also rejected the Service's petitions for reconsideration of the decision.

Tiring of the United States' regulatory conflicts and the resulting implementation delays, the foreign countries began a series of meetings in November 1979 to determine whether they would implement INTELPOST with or without the United States. These countries decided to implement INTELPOST, and service between Canada and Great Britain began in June 1980--without the United States participating.

In September 1980, the Service agreed to begin a 12-month commercial testing of INTELPOST with Canada. This testing became possible because the FCC defines service to/from Canada as domestic, and the Service used a common carrier's existing approved domestic tariff to begin service.

The Service, however, plans to continue its efforts to obtain direct service connections with several foreign countries when they later begin service but will not attempt to become the world switching center. Thus, even if the FCC ultimately approves the international record carrier's request, the United States will have lost the opportunity to be the focal point of international service.

ADMINISTRATION ENDORSED POSTAL  
SERVICE ELECTRONIC MAIL EFFORTS

On December 15, 1978, the President appointed an inter-agency coordinating committee to conduct a formal study to develop the administration's policy regarding the future

role of the Postal Service in providing services using electronic communications technology. The study was to address specific policy areas, including

- the possible future benefits to the Nation of Postal Service involvement;
- the potential costs to the Nation of establishing Postal Service competition in an industry that has previously been restricted to private competition;
- the impact of electronic communications on postal operations and revenues;
- the overall economic impact, including potential reduction in postal costs, of a Postal Service investment in an electronic system; and
- the options for interconnection between the Postal Service physical delivery network and the electronic message industry.

On July 19, 1979, the administration endorsed the Service's participation in the electronic mail market. To ensure that all forms of electronic communications would be open to full and fair competition, the endorsement included the following eight conditions:

1. The administration opposed any legislative or regulatory efforts to restrict competition or entry in the electronic message field. In particular, it opposed any extension of the private express statutes beyond letter mail to cover electronic transmission.
2. The Service's electronic operations should not be subsidized by tax money or by revenues from other Postal Service activities.
3. The Service's electronic service should be established as a separate entity for accounting and ratemaking purposes to ensure that it is operated in a competitive fashion and to avoid the cross-subsidization of electronic service by regular mail services.
4. The Service should make its delivery services available to all electronic carriers at the same rates as those it charges itself.

5. The Service's electronic service should be reviewed within the next 5 years, before the major investment is made, to evaluate its competitive impact and its potential to improve postal services and to ensure that no cross-subsidies or other anticompetitive actions are involved.
6. The Service should purchase electronic transmission services from carriers rather than building a transmission network.
7. To ensure that interconnection with the mail delivery system is available to all companies, technical interconnection standards should be developed through a cooperative effort by the American National Standards Institute, the Service, the private carriers, and an impartial arbiter, if needed.
8. The existing regulatory system should be used to regulate the prices of the new services; i.e., the Federal Communications Commission should regulate the pricing of the electronic transmission portion of the electronic message service, and the Postal Rate Commission should regulate the pricing of mail delivery. This regulatory system should be re-examined after 5 years to determine whether any statutory change is needed.

The Postmaster General welcomed the administration's endorsements and agreed to the eight conditions.

After the PRC rejected the Service's original E-COM proposal and offered an alternative proposal (see p. 10), the administration urged the Service to accept the alternative proposal in order to "hasten the availability of electronic mail service \* \* \* [s]uch a course affords us the best means, given present circumstances, of achieving our common goals-- improved mail service and greater innovation without needless regulatory delays."

USE OF ELECTRONIC MAIL WILL  
INCREASE WITH OR WITHOUT  
POSTAL SERVICE PARTICIPATION

As stated previously, electronic mail is a rapidly maturing technology which appears to be an inevitable addition to the automated office. Much has been written lately concerning the technological advances toward the "Office of the Future" and the "Office of the 80s."



Terms, such as systems integration, interface, and inter-connection, fill articles relating to future office automation. Integrating or interconnecting existing equipment, such as the telephone, the office copier, the computer, and the typewriter, expands the capabilities of equipment and personnel alike and leads to an increasingly automated office. For example, these integrated systems permit the user to

- create messages by voice communications input to a computer, by individual word processors, or word processors linked to data processing capabilities;
- store messages in computer memory or on magnetic tapes or discs;
- transmit messages to one or more remote locations from computer to computer, facsimile to facsimile, or word processor to word processor; and
- "print" messages on the recipient's terminal or in hard copy for normal distribution.

Additionally, many automated systems permit employees, while away from the office, to query their "mailbox" through remote telephones or portable terminals, thus making response time more rapid.

Businesses automate their offices and introduce electronic mail systems for many reasons including (1) improving managerial and clerical staffs' productivity, (2) reducing costs, (3) reducing paper volume, and (4) increasing communication speeds. Both the public and private sectors currently use electronic mail, and estimates indicate that this will increase in the coming years. The big question remains, however, as to the timing and extent of the electronic mail market. For example:

- International Data Corporation predicts that word processing equipment sales will increase from \$779 million in 1979 to \$4.6 billion in 1984; dollar value of installed equipment will increase from \$1.2 billion in 1978 to \$16.1 billion in 1984; and sales of word processing services, such as service bureaus, will increase from \$21 million in 1977 to \$55 million in 1983.

- Predicasts, Inc. forecasts that annual revenues of the facsimile market will increase from \$120 million in 1977 to \$910 million by 1989.
- International Resources Development, Inc. estimates users will be spending more than \$4.7 billion annually on electronic mail services and equipment by 1989, compared to \$1 billion in 1979.
- Yankee Group forecasts a \$500 million market for voice mail <sup>1/</sup> by 1985, based on the world's first commercial system introduced in May 1980.
- Satellite Business Systems estimates that the communications and related information services industry will grow from \$25 billion in 1980 to \$100 billion by 1989.

Though the forecasts vary, it appears that electronic mail will be a growing industry regardless of Service participation.

More than 50 firms provide equipment or services to meet businesses' needs for office automation, and new products or improved models continually appear on the market. Many of these new services or models arrived on the market in 1980 or are scheduled for early 1981. They are developed by such firms as IBM; ITT Domestic Transmission Systems, Inc.; Satellite Business Systems; Tymshare; Wang Laboratories, Inc.; and Xerox.

These firms plan to expand the equipment's capabilities and improve the speed of communication. For example:

- Satellite Business Systems introduced a prototype communicating copier in May 1980 which is able to scan documents at 30 pages per minute and print at a rate of 60 pages a minute.

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<sup>1/</sup>Voice mail is a system that turns spoken words into digital "mail," delivers the mail to the recipient, files the mail if the recipient is not at his office, and reconstitutes the digital data back into the sender's voice when the recipient is ready to receive his mail.

--Manufacturers are introducing improved compatibility features to permit wider interconnection among other manufacturers' equipment.

--Facsimile transmission speeds are being increased, and transmission times for all types of communications are being reduced through increased use of fiber optics, microwave radio links, and satellites.

These are but a few examples of electronic communications technology that benefit businesses. But new advances for the private citizen are rising in popularity and could some day be adapted to receive electronic mail. For example:

--TV viewers in Great Britain and France have access to the Prestel/Viewdata information system which offers about 150,000 pages of games, timetables, restaurant listings, consumer product evaluations, and other material. Users also can purchase items on credit through the system. France is attempting to eliminate telephone books by equipping the nation with electronic telephone directories. Testing of similar services began in Albany, New York, in August 1979.

--CompuServe Inc., announced in June 1980 that 11 Associated Press member newspapers will cooperate in an experiment to provide electronic delivery of news to the home. The newspapers will make available a daily electronic "edition" to readers who own personal computers equipped to receive signals via telephone.

--Home computers have become more affordable as have electronic calculators and digital watches. Many computers that enter the home for educational or recreational purposes, could, with minor modifications, be used for a variety of other tasks that involve listing, computing, and/or planning.

## CONCLUSION

The expansion of electronic mail services will not wait for a Postal Service role to be determined nor does its expansion depend on the Service even having a role. Electronic mail technology is advancing rapidly and the speed with which it is implemented depends primarily on customer acceptance and usage.

## AGENCY COMMENTS AND OUR EVALUATION

The Chairman of the Postal Rate Commission generally felt that the report gave a lucid and concrete treatment to a difficult and significant topic. He expressed concern, however, that the report did not adequately reflect the required and time-consuming phases of the regulatory process especially given the fact that the E-COM proposal presented novel problems with respect to the interface between postal and telecommunications regulatory activities. (See app. IV.) Where appropriate, we modified the report to include references to the trial-like hearings the PRC must hold and made language changes suggested by the Chairman.

The Chief, Common Carrier Bureau, FCC offered information concerning recent regulatory developments. He informed us that regulatory developments since the FCC's declaratory ruling with respect to its jurisdiction over the proposed E-COM offering have served to clear away some of the substantive Communications Act issues raised by the Postal Service's participation in the electronic mail business. These developments raise the possibility that the FCC's regulatory involvement in electronic mail offerings will be quite limited. (See app. V.)

## CHAPTER 3

### IMPACT ON THE POSTAL SERVICE'S LABOR FORCE:

#### HOW MUCH? HOW SOON?

Much has been written about the future of electronic mail technology and the potential mail volume which could be diverted to electronic systems other than the Postal Service; but little is known about the impact on the Service's labor force. As is always the case when attempting to predict the future, the outcome of many critical issues is totally speculative, specifically, (1) the extent and timing of the electronic mail market, (2) the mail volume which would be diverted from the Service, (3) the potential new forms of communications generated as a result of electronic mail, (4) the impact of the changing regulatory environment, and (5) the future growth of our Nation's economy. These unknowns make any current assessment of future outcomes an extremely speculative endeavor.

Therefore, our assessment of the potential impact of electronic mail on the Service's labor force for the period 1985 to 2000 is, at best, a guess of "what might be" given today's obviously limited ability to predict future events with any certainty.

#### METHODOLOGY FOR ASSESSING LABOR FORCE IMPACT

Electronic communications systems potentially provide a service that is both less costly and more rapid than conventional Service operations. A current concern is when and to what extent the Service's labor force requirements would be affected because of mail diversion from the conventional system to electronic systems.

For the following reasons, long-term estimates of labor force impacts are subject to considerable uncertainty. Although many of the electronic technologies currently exist at a reasonable cost, the extent and timing of household and business acceptance of these technologies for communications is largely unknown. When used, electronic communications could substantially replace letter mail or on the other hand merely supplement it. The answer in all probability lies between these two extremes--but its precise location on this spectrum of possibilities is uncertain. Further, technical problems may be encountered in developing large-scale

electronic systems causing delays and increasing costs. Resolving the regulatory issues guiding public/private development of electronic systems may take several years as described in chapter 2.

Additionally, the electronic communications market will be established, in part, by the growth of the Nation's economy, but such growth estimates are subject to considerable uncertainty. Any long-term estimates of labor force impact must address these issues, but the basis for forecasting becomes weaker as longer term forecasts are attempted.

In conducting our assessment we (1) reviewed prior studies of potential mail diversion, (2) developed an estimate of mail diversion, (3) developed economic and postal operating assumptions, and (4) used Postal Service forecasting models to analyze this data. This analysis was done in light of varying levels of Service and private sector participation in the electronic mail market to the year 2000. Our methodology is briefly described below.

#### Assessment approach

Studies concerning potential mail diversion to electronic systems began emerging as early as 1970. Yet, in 1980, many questions raised by these earlier studies remain unanswered and are likely to remain so until electronic systems are developed and used on a large scale. For that reason, we did not perform original research to develop "one more study" on potential mail diversion. Instead, we relied on existing forecasts from several significant studies which appear to provide the best available estimates of what diversion might occur for the period 1985 to 2000.

We synthesized the results of the following four studies which were conducted under contracts awarded by the Service and the Commission on Postal Service 1/ as follows:

- "The Impact of Electronic Communications Systems on First Class Mail Volume in 1980-1990," Arthur D. Little, Inc., April 1978.
- "USPS and the Communications Revolution: Impacts, Options, and Issues," Program of Policy Studies in Science and Technology, George Washington University, March 1977.

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1/See page 6.

--"EMS System Definition and Evaluation--Executive Summary," RCA Corp., December 1978.

--"Requirements and Forecasts of Volumes For Prospective EMSS Mailers," Booz-Allen & Hamilton, Inc., March 1980.

These studies distinguish between electronic mail systems and other electronic systems such as electronic funds transfer or telephone/telegraph. This distinction is important in studying labor impact because the Service could develop and/or participate in electronic mail systems to maintain mail volumes and employment levels, but the Service has virtually no control over diversion to other electronic systems and the resulting reduction in mail volumes and employment levels.

Other major considerations for selecting these studies included:

--The contractors' method for analyzing vulnerability of the mailstream to diversion by type of use (transactions, correspondence) and user (businesses or households). This method has the advantage of linking diversion forecasts to estimates of current mailstream vulnerability by specific uses and users.

--The contractors' use of data on past diversion or survey data of expected diversion rather than an arbitrary assumption of the percentage of mail diverted.

--The contractors' consideration of type of service provided (black and white, degree of color). This method ties forecasts to service qualities of proposed systems.

--The final reports' recency and evidence of use and acceptance by the Service or the Commission on Postal Service.

These prior studies, however, used generally different methods and data to determine diversion estimates. Therefore, we used several procedures to enhance compatibility and to fill data gaps. For example,

--The George Washington University study included the advertising component of third class mail in its diversion estimates while others did not. For compatibility we eliminated this third class mail volume.

--Three studies estimated, or strongly implied, costs would be lower with electronic mail, which further implies that rates charged to users could be lower than rates for conventional mail. The recent Booz-Allen & Hamilton study, however, assumed that First Class rates would be the same for both electronic and conventional mail. For compatibility, we adjusted this study's rates down and its volumes up on the premise that a lower electronic mail rate would increase mail volume.

--Only the RCA study estimated the rate by which the market for electronic mail would expand to full system volume. Thus, we applied RCA's timed expansion rates to the other studies.

After doing all we could reasonably do to make the prior diversion study data compatible, we synthesized the results by averaging the estimated mail diversion for the period 1985 to 2000 as follows:

Average Estimated First Class  
Mail Diversions For The Period 1985 to 2000

	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
	-----(billions of pieces)-----			
<b>Electronic Mail Services:</b>				
Arthur D. Little	.3	2.9	7.8	15.1
RCA	.5	4.5	12.0	13.5
Booz-Allen & Hamilton	<u>.2</u>	<u>1.6</u>	<u>4.4</u>	<u>8.3</u>
Average diversion (notes a, b, and c)	.3	3.0	8.1	12.3
<b>Other Electronic Communications Systems:</b>				
George Washington University	6.6	9.7	12.7	15.8
Arthur D. Little	<u>7.2</u>	<u>10.0</u>	<u>13.0</u>	<u>16.3</u>
Average diversion (notes a, b, and c)	6.9	9.8	12.8	16.0
Total average diversion (notes b and c)	<u>7.2</u>	<u>12.8</u>	<u>20.9</u>	<u>28.3</u>

a/Rounded to one decimal point.

b/These figures vary slightly from those cited in appendix II because of refinements made after we provided the data to the Service.

c/This table shows volumes expected to be diverted from First Class Mail as a result of the two components of electronic communications--electronic mail services and other electronic communications systems.



Since no apparent basis existed for weighting any one study more heavily than another, we simply averaged the study results to arrive at the above diversion estimates. We were unable to relate this potential diversion to estimated future mail volume because the Service's only official estimate covers the period March 1981 to March 1982. The Service estimates First Class Mail to total about 59.8 billion pieces during this period.

In addition to estimating potential mail diversion, we needed to develop assumptions concerning future economic and postal operating considerations. We based our economic assumptions on those used by Data Resources, Inc., an economic forecasting organization. Our assumptions concerning the Service's operations included:

- Labor costs escalate according to the current labor contract.
- Indirect costs (fuel, equipment, buildings, etc.) increase 10 percent annually.
- Public service subsidies from appropriated funds remain constant.
- Postal rates are determined on a break even basis and are adjusted every 2-1/2 years.
- Productivity increases by 3 percent per year.
- Diversion affects First Class Mail only.

Deviations from the above assumptions can lead to different labor force forecasts. We did not, however, perform any sensitivity analyses to determine which assumptions may be the most critical to the forecasted labor force impact. For example, since reorganization, the Service's productivity improvement averaged 2.7 percent, and the Postmaster General has established as a goal a 3 percent productivity improvement. We used the 3 percent figure but did not compute the impact on the labor force for the variance if the actual productivity were to remain at 2.7 percent or decrease to some lower figure.

Because the Service's specific role in electronic mail remains undefined, we considered five scenarios, or varying levels of participation, to assess the potential impacts on the labor force. These five scenarios provide for varying levels of Service and private sector participation in the electronic mail market and consider the potential impact of

mail volumes diverted from the Service's normal processing and delivery operations.

These scenarios include:

- (1) No Electronic Communications Increase--  
Neither the Postal Service nor private enterprise appreciably increases electronic communications over volumes existing in 1980.
- (2) Only Private Sector Offers Electronic Communications--  
The private sector offers both electronic mail and other electronic communications services, but the Service does not participate.
- (3) No Electronic Mail Systems Developed--  
Electronic mail services would fail to increase over 1980 volumes, but other electronic communications systems, such as electronic funds transfer, or telephone/telegraph expand.
- (4) Shared Electronic Communications--  
Both electronic mail and other electronic communications develop with the private sector transmitting the messages and the Service providing delivery of the hardcopy output.
- (5) Postal Service Provides All Electronic Mail Services--  
The Postal Service provides all electronic mail services without participation by the private sector. Other electronic communications services expand.

As a final assessment procedure, we requested Service personnel to use our diversion estimates and other assumptions in a Service econometric model to produce a series of forecasts for the first three scenarios. This forecasting model contains a series of equations based on historical relationships among certain economic information, real postage rates, population statistics, number of households, mail volumes, and Service workforce. We did not review or validate the Service's econometric model. Instead, we performed computations of workyear losses due

to total diversion considering only productivity improvements. Our findings were consistent with the numbers produced by the model.

The Postmaster General expressed serious reservations about the use of this model to assess the labor force impact. He felt that it was inappropriate to use econometric models or other forecasting techniques to assess possible outcomes over such a long time period. (See app. II.) While we share the Postmaster General's concern that prognostication in the volatile area of electronic technology is a very risky undertaking, the subcommittee sought from us an answer to a valid question and we used the best methodological techniques we could identify to provide estimated labor force impacts within the available time period.

Using the model output for scenario number 2, we developed the labor force impact for scenarios 4 and 5. Scenario 4 was developed by adding the required delivery personnel for electronic mail to the workyear estimate from scenario 2. Similarly, for scenario 5, we added both the required delivery and processing and transmitting personnel for electronic mail to the workyear estimate for scenario 2. On the basis of previous electronic mail studies, we assumed that the Service's participation called for in scenarios 4 and 5 would require 2,000 workyears for delivery (scenario 4) and 7,000 workyears for transmitting, processing, and delivery (scenario 5).

#### EMPLOYEE REDUCTIONS DEPEND ON POSTAL SERVICE PARTICIPATION LEVELS

We assessed electronic communication's potential impact on the Postal Service's labor force using the five scenarios to estimate to what extent the Service's current employment levels might change over time. In fiscal year 1979, the Service used 673,000 workyears <sup>1/</sup> to process the mail. Our projections indicate that required workyears could decrease within the range of 88,000 to 210,000 by the year 2000, depending on the development of electronic communications and the Service's participation in the electronic mail market.

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<sup>1/</sup>The Service employs full-time, part-time, and casual employees and therefore the term employees becomes meaningless. The terms workyears or full-time equivalent employees represent the time these employees actually spend on the job. Thus, we used workyears, rather than actual employees, as a basis for our review.

Scenario 1, in which neither the private sector nor the Service develops or offers electronic communications, becomes our base case from which potential impacts can be compared. This scenario assumes that electronic communications (electronic mail and other electronic communications) fail to appreciably increase over the volumes existing in 1980. Consequently, if the Service continues to function in its traditional role and follows current management practices, our projections indicate that workyear requirements would decrease by 88,000 in the year 2000, primarily because of projected productivity increases. In contrast, scenario 2 indicates that if the private sector offers electronic mail and other electronic communications but the Service does not participate, Service workyears would decrease by 210,000. Thus, diversion of 28.3 billion pieces of mail and no Service participation reduces workyear requirements by an additional 122,000 over scenario 1. The following table summarizes our workyear projections under the various scenarios.

<u>Scenario</u>	<u>Workyear Requirements</u>				<u>Reduction from 1979</u>
	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>	
(1) No electronic communications increase	636	627	597	585	88
(2) Only private sector offers electronic communications	597	556	488	463	210
(3) No electronic mail systems developed, other electronic systems develop	599	570	534	517	156
(4) Shared electronic communications	597	558	490	465	208
(5) Postal Service provides all electronic mail services	597	563	495	470	203

It should be noted that if the electronic communications market develops and if the Service participates, substantial employment losses may still occur for two reasons. First, the diversion estimates we used considered other electronic communications--16 of 28.3 billion pieces in 2000--which would occur outside of the Service's control. Second, electronic mail delivery, processing, and transmitting requires very few employees. Estimates indicate that electronic mail delivery would require about 2,000 workyears, while processing and transmitting would require about 5,000 workyears.

The scenario in which the Service delivers the privately transmitted messages (scenario 4) is similar to the proposed E-COM service. Our projections indicate that this scenario would not significantly affect the reduction in the Service workyears if the electronic communications markets develop. Conversely, if the Service fully participates in the electronic mail market, the private sector does not, and other electronic communications develop (scenario 5), the reduction in the Service workyear requirements lessens by only 7,000 workyears.

Scenario 3, which appears unlikely to occur, 1/ includes a mail diversion of 16 billion pieces in the form of other electronic communications and reduces the Service's workyear requirements by 156,000 workyears.

Prior to the 1971 reorganization, the Service required 726,000 workyears. By 1979 its required workyears had been reduced to 673,000. These reductions occurred during a period of rising mail volumes, but gradual increases in mechanization and productivity permitted an orderly transition. Thus, over a 9-year period, the Service reduced its workyear requirements by 53,000, or about 6,000 workyears annually.

Further, an examination of Postal Service employee separation statistics and age distribution is quite revealing. During the period 1975 to 1977, the Service annually separated an average of about 34,000 full-time employees and 18,400 part-time employees, including about 21,000 retirements. The Service's age distribution statistics indicate that of the current labor force approximately 260,000 employees are over

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1/We believe that electronic message technology currently exists and the RCA study indicates that transmission costs are relatively small. Therefore, either the Service or the private sector will develop this market.

age 50 and another 150,000 are between the ages of 40 and 49. Therefore, many of these 410,000 employees 1/ will retire before the year 2000. Thus, even if the largest projected reductions were required, we believe that the Service could achieve orderly reductions through retirements and other forms of separation.

### CONCLUSION

Our projections indicate substantial workyear losses for the Postal Service if the electronic mail markets develop in the magnitude and timeframe projected and subject to our other assumptions. Substantial losses will occur even if the Service participates fully in the electronic communications market, which raises the question of how the Service will reduce the labor force in an orderly fashion without wholesale layoffs. Our projections show a potential workyear reduction of about 200,000 by the year 2000; thus, the Service would have to lose about 10,000 full-time equivalent employees annually. With proper planning, we believe that the Service could achieve the estimated reduction with little or no adverse impact on employees unless unforeseen technological advancements occur.

### AGENCY COMMENTS AND OUR EVALUATION

In commenting on our draft report, the Postmaster General expressed concern about the appropriateness of using econometric models to make projections 20 years hence. Accordingly, he felt that the report's projected data on mail volumes and workyears must be considered "guesstimates" to be used with great caution. (See app. III.)

We share the Postmaster General's concern about the possible inappropriateness of using econometric models to assess possible future outcomes. On the other hand, the possible impact on the Service's employees resulting from electronic mail is a very valid concern. While we recognize the uncertainties inherent in any prognostication of this kind, we believe we have used the best methodology and data available to provide the information within the timeframe requested.

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1/This figure includes about 30,000 substitute rural carriers who are not included in the Service's total employment figures of approximately 660,000 cited on page 6.

The Postmaster General also expressed reservations about our conclusion that with proper planning postal work reductions could be achieved with minimal impact on postal employees. He felt that much would depend on the timing and pace as well as the actual magnitude of changes caused by electronic mail and the other factors discussed in the report. We agree with the Postmaster General and modified our conclusions to reflect this uncertainty.

Finally, the Postmaster General said that the draft report assumed a direct one-for-one substitution of electronic mail messages for conventional mail. He pointed out that this is not necessarily so.

While the draft report said that we made this assumption, actually this was not the case. Rather, the studies used to arrive at the diversion figures cited on page 22 estimated electronic mail's total effect (both positive and negative) on conventional mail volume. The language in the report has been changed to clarify this matter.

## CHAPTER 4

### OTHER FACTORS POTENTIALLY AFFECTING

#### THE POSTAL SERVICE'S LABOR FORCE

Since reorganization, increased mechanization and corresponding productivity increases permitted the Postal Service to reduce its labor force while its mail volumes continued to rise. These advances, however, face serious challenges during the Service's second decade because of increased competition from alternative delivery systems.

To meet the continued challenge of maintaining mail volumes while increasing productivity and reducing costs, the Service has introduced new programs, such as customer presort and ZIP code expansion, to streamline its operations and improve efficiency. These programs combined with a potential cutback in delivery services may affect the Service's labor force more severely or more rapidly than electronic mail.

#### CUSTOMER PRESORT REDUCES REQUIRED PROCESSING STEPS

Increasing mail volumes and ever changing customer needs mean that the Service must continually introduce new processing and delivery methods thereby improving efficiency and productivity. For example, the Service introduced the First Class Presort program in July 1976 and the Third Class Carrier Route Presort program in January 1979 to reduce sorting costs and improve mail delivery.

In the First Class Presort program, customers meeting certain volume requirements are eligible for a 2-cent discount if they presort their mail according to a three-or five-digit ZIP code sequence. Third Class mailers receive a 1.7 cent discount for sorting their mail to carrier route. The Service believes that the discounts generate increased volumes, which, when moved more efficiently, stabilizes postal rates, which in turn encourages more volume. Thus, customers continue to use the Service rather than seek alternative delivery systems.



As shown by the increasing mail volumes below, customers appear willing to participate in the presort program to obtain the discounts.

Presorted mail

<u>Fiscal year</u>	<u>First Class</u>	<u>Third Class</u>
	------(in billions)-----	
1977	2.2	---
1978	3.3	---
1979	5.7	3.0
1980 (est)	7.5	6.4
March 1981 to 82 (note a)	15.0	13.2

a/These figures represent the Service's volume estimates based on the Service's April 1980 proposed rate increase which must be approved by the Postal Rate Commission.

The Service benefits from the presort program in that it eliminates many primary and secondary sorting operations. Reduced processing steps, in the Service's view, will not necessarily result in fewer employees but in a possible shifting of processing functions. For example, although customers present more presorted sacks and the Service may require more personnel to handle the additional sacks, fewer employees are needed to operate the letter sorting machines.

The Service believes that presort mail volumes will substantially increase with customer awareness. In its current proposed rate filing, the Service estimates that by March 1982 total annual mail volume will increase by 4.4 billion pieces. Presorted mail is projected to increase by 19.9 billion pieces while First and Third Class Mail, which requires sorting by the Service, is projected to decrease by 15.7 billion pieces.

ZIP CODE EXPANSION ALLOWS INCREASED MECHANIZATION TO SPEED PROCESSING

In the Fall of 1978, the Postmaster General announced plans for expanding the present five-digit ZIP code to nine-digits. This expansion would permit greater use of mechanization to do much of the reading, coding, and sorting operations down to carrier route.

Basically, this is how the system would work: an optical character reader would scan machine readable mail to verify that city, state, and ZIP code agree; would print a designated bar code on the envelope; and would perform the

initial mail sort. This sorted mail would then be processed through bar code readers to provide a finer mail sort. Thus, customer cooperation in using machine readable nine-digit ZIP mail would eliminate several of the initial mail processing steps. The Service estimates that by the mid-1980s, 90 percent of the 30 billion pieces of machine readable First Class Mail could be handled by optical character readers.

The Service plans to implement the new system in June 1981 and hopes to have it completed by fiscal year 1986. The Service estimates that national implementation will require 558 optical character readers and associated bar code readers costing about \$762 million. Additional system costs are estimated at about \$125 million. These expenditures, however, are expected to permit a reduction of 15,600 workyears in the mail processing and delivery operations by 1987. Cumulative cost savings by 1987 are expected to total about \$1.4 billion.

#### NO CLASS OF MAIL IMMUNE FROM ALTERNATIVE DELIVERY SYSTEMS

Although the Private Express Statutes grant the Postal Service a revenue monopoly in delivering letters, the extent of the monopoly, depends in part, on the Service's interpretation of the statutes. In November 1979, the Service relaxed its interpretation of these statutes to permit private firms to deliver "urgent" letters meeting cost, distance, and timeliness requirements. The Postmaster General relaxed the Service's interpretation of these statutes because customers' needs sometimes exceed Service capabilities. Postal officials, however, caution against relaxing or modifying the statutes too much in order to maintain the viability of the Postal Service as it is known today. They observe that any new regulations must be "tightly drawn and narrowly restricted in order to avoid substantial erosion of the postal revenue base needed to continue a universal postal system serving all the people of the nation."

Mailers, disenchanted with rising postal costs and slower service, seek alternative methods to the Service's delivery service. These alternatives cause a diversionary impact on all classes of mail even though the Private Express Statutes provide the Service a revenue monopoly on the carriage of letter mail. For example:

--Utility companies use employees to deliver the monthly bills.

- Customers use the telephone to take advantage of bill-payer services or personally pay utility or charge card bills at banks or local retail stores. In the Washington D.C., area alone, about 35 percent of all utility bills are paid directly at banks.
- Monthly, the Department of the Treasury makes almost 13 million payments through its Direct Deposit/Electronic Funds Transfer program.
- Businesses increasingly advertise toll-free "800" telephone numbers which reduce the volume of potential reply mail.
- Advertisers increasingly use radio, television, and newspapers as a medium to reach a greater population.
- Monthly copies of several magazines and daily copies of the Wall Street Journal are delivered by private firms. These private firms further reduce their mailing costs by distributing local advertising material with the magazines, thus diverting additional mail from the Service.

The most stunning impact caused by alternative delivery systems involves parcel post. In 1970, the Service delivered 800 million packages a year, while the United Parcel Service delivered 499 million. In 1979, the Service delivered only 200 million, while United Parcel delivered 1.4 billion. Several other private firms have begun express mail type of services, guaranteeing same day or next day delivery of small packages.

According to the Assistant Postmaster General for Customer Services, alternative delivery is a more immediate threat to the Service than any of the new communications technologies. The Service relies on maintaining its mail volumes to cover substantial fixed costs and to maintain its viability as a universal service. When volume declines, rates have to be increased to cover increased costs, setting off a cycle of mailers seeking alternative delivery methods thereby creating additional volume reductions. If, however, during volume decline, rates remain stable and costs increase, Federal subsidies would have to be increased to insure the universal service.

The potential impact of alternative delivery systems on the Service and its labor force has not been quantified and to do so would be exceedingly difficult, if not impossible. It stands to reason, however, that the Service can live with some competition and remain viable. Yet the

question remains as to how much competition the Service can endure before a universal mail system becomes very expensive.

#### MAIL DELIVERY--5 DAYS OR 6?

The Congress has debated the pros and cons of eliminating or reducing specific Federal programs or services in an effort to balance the 1981 budget. Possibly the most debated and controversial issue concerned reducing the number of mail delivery days from 6 to 5.

Opponents have continually emphasized to oversight, budget, appropriations, and conference committees the potential burdens on the American public and the Postal Service while proponents have continually emphasized the potential cost savings involved. The Service concedes that if its public service subsidies were reduced by \$500 million, reducing the number of mail delivery days would be necessary.

Eliminating one delivery day, opponents caution, would severely hurt the elderly, rural residents, small businesses, and second and third class mailers and may result in additional private firms offering alternative delivery services. Additionally, Service employees, especially letter carriers, would be affected if one delivery day were eliminated. Estimates of the number of employees who would become excess to Service needs range from 15,000 to 50,000. The Postmaster General believes that most reductions could be achieved through attrition, but he has emphasized that about 20,000 letter carriers hired since September 1978 would not be protected by the no-layoff clause in the union contract.

When the Postmaster General became aware of the possible reduction in delivery days, he requested two task forces to assess the issue. The first task force assessed the effects on service levels and various customer groups, special services, and internal operations. The task force concluded that implementation of 5-day delivery is possible, but it would have the following major impact.

--If Saturday delivery were eliminated, 31 to 33 percent of the weekly volume would require Monday delivery assuming no shift in mailing patterns. This would have negative impact on

service, including overtime, inconsistent delivery, delayed deliveries, equipment shortages, inadequate space to store accumulated mail, and inadequate vehicle capacity.

The task force was reluctant to endorse one delivery day reduction as being in the best interest of the Service or its customers. Although potential cost savings are attractive, the risks to the Service and future revenues are high. The task force recommended that if 5-day delivery became necessary, implementation should be delayed 12 to 18 months to permit adequate planning.

The second task force is exploring the labor relations implications of eliminating 6-day delivery. Specifically, the task force's responsibilities include:

- Drafting detailed instructions for dealing with bargaining unit employees who would be excess to the Service's needs.
- Developing a management framework for identifying excess employees and employee reassignments.
- Developing a step-by-step approach for implementing the layoff and reduction-in-force.
- Developing an overview of the 1978 National Agreement provisions potentially affecting the implementation of 5-day delivery.
- Developing recommendations for implementing operational changes dealing with rural delivery.
- Reviewing and refining management information systems which will aid in the decisionmaking process for addressing the personnel impact resulting from reduced delivery days.

Because of its sensitivity, the Service will not release the report until a specific decision to reduce the number of delivery days is made.

Although a reduction in the number of delivery days did not materialize for fiscal year 1981, future budget cutting efforts may include such measures.

POSTAL SERVICE EFFORTS  
WHICH MAY MINIMIZE IMPACT  
ON EMPLOYEES

Rising costs, increased use of alternative delivery systems, reduced service levels, and the uncertainty of electronic mail participation represent the major challenges faced by the Service. Because these type of changes tend to be evolutionary, they allow for relatively smooth adjustments in the work force. Two current Service efforts--creation of a Planning Department and a National Retirement Counseling System--may enhance its ability to manage change with minimum disruption to its labor force.

In June 1980 the Postmaster General informed the Board of Governors of the creation of a Planning Department, and the Governors approved the compensation of the Department's principal officer. As currently envisioned, this department will fill a coordination role among existing planning functions and will be concerned with (1) program planning, (2) policy and implementation planning, (3) economic issues affecting the Service on an organizational level, and (4) strategic analysis. Basically, in its coordinating role this department would view the Service as a total organization as opposed to the more limited functional planning done by individual operational groups.

The Service's second effort, which began in August 1980, is the National Retirement Counseling System. This management information system provides retirement age employees with data concerning their estimated annuities and enhances the employing offices' ability to provide a more structured retirement counseling program. Additionally, this system provides management reports to assist in (1) planning for and scheduling future retirement counseling programs, (2) assessing potential manpower shortages, (3) planning recruitment and training programs, and (4) analyzing turnover.

Currently about 20,000 Service employees retire each year. This figure may accelerate considering the Service employs about 260,000 1/ people over age 50 and another 150,000 1/ in the 40 to 49 year old bracket. It should be noted that the average Federal employee retires at about age 61, and the Service currently employs about 68,000 1/ persons over this age.

#### CONCLUSION

Increased mechanization and the resulting productivity gains enhance Postal Service operations. Both the customer presort program and the proposed nine-digit ZIP code are expected to streamline the Service's operations and permit it to reduce the size of its workforce. Additionally, increased alternative delivery systems and potential cut-backs in delivery services could cause further reduction in the number of Service employees. Current employees continually question whether the Service can accommodate these changes or whether the future holds the potential for layoffs.

The Service faces many challenges over the remainder of this century. If properly used, the Planning Department and the National Retirement Counseling System should aid in lessening adverse impacts on current Service employees.

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1/These figures include about 30,000 substitute rural carriers who are not included in the Service's total employment figures of approximately 660,000 cited on page 6.

Chronology Of Regulatory Actions  
Associated With Implementation Of E-COM  
And INTELPOST Services

<u>DATE</u>	<u>E-COM Service</u>
6/77	USPS receives customer request for a new service, then called "Advanced Communication Service," later to be named "E-COM" service.
11/77	"Advanced Communication Service" proposal discussed at USPS executive committee meeting: committee directs further developmental work.
6/27/78	Postmaster General decided on sole source contract with Western Union for E-COM service during preliminary implementation.
8/21/78	USPS enters into letter contract with Western Union.
9/08/78	USPS files request with the PRC for a recommended decision to establish a separate class of mail for proposed E-COM service.
9/15/78	Western Union, contractually obligated to USPS to obtain any necessary FCC approvals, files letter with the FCC contending that Western Union does not need the FCC's approval to fulfill its contract with the USPS for E-COM service.
11/09/78	Chief of FCC's Common Carrier Bureau writes Western Union and takes position that Western Union must file tariff for services provided to the USPS in support of E-COM service.
12/15/78	President appoints an interagency coordinating committee to determine the administration's policy regarding USPS' future role in electronic communications.
12/19/78	Western Union files tariff to provide service to the USPS in support of E-COM service, with a request that the tariff become effective on 1 day's notice.
12/20/78	FCC rejects Western Union's request that tariff take effect on 1 day's notice. (E-COM service could have commenced on this date under the Service's power to



institute temporary rates pending a PRC decision, but for the FCC's action.)

- 1/08/79 Western Union files further tariff to provide service to the USPS.
- 1/25/79 Graphnet, Inc., petitions FCC to determine that FCC has jurisdiction to regulate USPS insofar as it proposes to provide E-COM service to the public.
- 2/02/79 FCC commences inquiry into its jurisdiction over E-COM service.
- 4/06/79 Chief of FCC's Common Carrier Bureau rejects Western Union tariff on the day before it was to take effect.
- 5/07/79 Western Union applies to the FCC for review of Common Carrier Bureau's rejection of its tariff to provide service to the USPS. (The FCC never ruled on the application).
- 7/19/79 Administration issues endorsement of USPS' proposed new electronic mail services.
- 9/04/79 FCC rules on 1/25/79 petition and claims jurisdiction over entire E-COM service, including physical delivery of hardcopy output. FCC rules that USPS in providing E-COM service must be regulated by the FCC, citing grounds that imply a claim of jurisdiction to regulate any electronic mail service USPS attempts to establish.
- 10/18/79 USPS initiates suit against FCC to block FCC's claim of jurisdiction over E-COM service.
- 12/04/79 Western Union withdraws from USPS E-COM service contract citing regulatory delays.
- 12/17/79 PRC declines to recommend to the Governors the USPS' proposed E-COM system design, but instead recommends an alternative, experimental subclassification for E-COM.
- 2/22/80 USPS Governors endorse basic structure of PRC recommended decision on E-COM service, but reject decision and propose that PRC modify its recommended decision in five specific areas.

- 4/08/80 PRC issues second recommended E-COM decision for an alternative experimental class of mail.
- 5/27/80 PRC established new docket to consider direct connection of private lines and direct delivery of data tapes to USPS, per Governors' proposals contained in their 2/22/80 decision.
- 8/15/80 USPS Governors approve, allow under protest, PRC's second recommended decision on E-COM service. The Governors direct (1) the service be implemented in January 1982 and (2) the USPS bring suit to have the experimental time limits recommended by the PRC on the provision of service invalidated.
- 10/14/80 U.S. Court of Appeals vacated the FCC order and dismissed USPS' suit against the FCC.

INTELPOST Service

- 8/77 USPS receives unsolicited proposal to perform developmental work for a new service, later to be called INTELPOST.
- 3/23/78 USPS enters into contract with Comsat for research and development services in support of INTELPOST.
- 9/78 USPS requests proposals from international record carriers for INTELPOST demonstration circuits (for first weeks of service).
- 12/15/78 President appoints an interagency coordinating committee to determine the administration's policy regarding USPS' future role in electronic communications.
- 2/79 ITT files application with FCC for authority to provide INTELPOST demonstration circuits to USPS. FCC takes no action, thereby effectively denying application.
- 3/79 USPS establishes technical feasibility of INTELPOST service between Washington, D.C., and New York City using test or "dummy" mail.
- 3/79 Graphnet petitions FCC to determine that FCC has jurisdiction to regulate USPS' INTELPOST service.

## APPENDIX I

## APPENDIX I

- 4/79 FCC invites public comments on Graphnet's INTELPOST petition but has not yet ruled on the petition.
- 5/79 USPS requests proposals from international record carriers for INTELPOST field trial circuitry for 1 year.
- 7/19/79 Administration issues endorsement of USPS' proposed new electronic mail services.
- 7/26/79 USPS awards contracts to RCA and TRT Telecommunications Corporation for INTELPOST field trial circuitry.
- 8/02/79 TRT files tariff amendment with the FCC to enable TRT to provide INTELPOST circuits to USPS; RCA asks FCC's Common Carrier Bureau to agree that RCA may provide INTELPOST field trial circuits to USPS under existing RCA tariffs.
- 8/15/79 FCC Common Carrier Bureau advises RCA that RCA cannot provide INTELPOST field trial circuitry to USPS without an amendment of RCA's tariff.
- 8/27/79 RCA files a tariff amendment with the FCC to enable RCA to provide INTELPOST service field trial circuitry to USPS.
- 10/12/79 FCC Common Carrier Bureau rejects TRT and RCA tariffs to provide USPS INTELPOST service circuitry.
- 11/12/79 RCA, TRT, and USPS apply to FCC for review of Common Carrier Bureau's tariff rejection of 10/12/79.
- 11/14/79 Administration, through the National Telecommunications and Information Administration, advises FCC of its support for the USPS, RCA, and TRT application for review.
- 1/14/80 RCA files a tariff with the FCC, different from that rejected in October 1979, to enable RCA to provide INTELPOST service circuitry to USPS.

- 4/11/80 FCC Common Carrier Bureau rejects RCA's INTELPOST circuitry tariff of 1/14/80.
- 4/22/80 FCC denies USPS appeal of 10/12/79 decision on INTELPOST service circuitry but says it will initiate a general rulemaking to eliminate, for all customers, certain tariff barriers blocking USPS from purchasing international circuitry for INTELPOST.
- 5/19/80 FCC initiates general rulemaking on international resale and shared use tariff restrictions, inviting public comments.
- 5/21/80 USPS and RCA petition FCC for reconsideration of 4/11/80 tariff rejection.
- 7/25/80 USPS files comments with FCC supporting its proposal to remove international resale and shared use restrictions from all IRC tariffs.
- 9/22/80 USPS, in cooperation with Canada Post, begins providing INTELPOST service between Toronto; Washington, D.C.; and New York City.



17 AUG 22 1989 P 3: 51

THE POSTMASTER GENERAL  
Washington, D.C. 20260

AUG 22 1989

Dear Mr. Staats: *Glenn*

In response to a request from your staff, we are enclosing estimates of future manyear requirements for the Postal Service based upon assumptions about volume diversions caused by electronic message delivery. These assumptions were provided by the GAO staff and should not in any way be construed as being approved or disapproved by Postal Service management.

The manyear projections provided have been generated by Postal Service staff members with the aid of our econometric model. I want to emphasize that the figures are, in my judgement, guesstimates at best. This is because:

- (1) We feel that it is inappropriate to use econometric models or other forecasting techniques to assess possible outcomes over such a long time period as 20 years. Its greatest danger is that figures produced by such a process imply an accuracy and preciseness that is simply not true. (See GAO note.)
- (2) We simply do not agree with the assumptions of the GAO staff that the impact of electronic technology will result in a one to one substitution of electronic mail for conventional mail. We feel that any mail diversion will come about in a more gradual manner and, additionally, that the entire question of whether or not additional conventional mail volume will be generated by the new technologies is totally ignored. (See GAO note.)
- (3) While the man power estimates include the effects of a 3 percent compounded annual productivity increase based on recent Postal history, they do not reflect any specific productivity improvements that will flow from the addition of the 9 digit ZIP Code mechanization and automation and any

other specific productivity programs. We are still assessing the specific impacts of such programs and are not able to provide precise figures at this time. (See GAO note.)

In light of the above uncertainties I question the usefulness of any attempt to project specific man power force levels over a 20 year period. The history of the Postal Service since reorganization has been one of rapid change, both internal and external. Furthermore, electronic technology has proved to be a volatile area in which all prognostications have been subject to large degrees of error. Consequently, while we wish to be cooperative with your staff and we have supplied these figures in response to their request, we most seriously question the entire exercise.

Sincerely,



William F. Belger

Enclosure

Honorable Elmer B. Staats  
Comptroller General  
General Accounting Office  
Washington, D.C. 20548

GAO note: Consideration of point 1 is found on page 25; point 2 is found on page 29; and point 3 is found in Chapter 4.

Based solely upon assumptions provided by the General Accounting Office, the potential impacts on the USPS labor force of mail volume diversions due to an increased application of electronic technology were assessed. These assumptions are as follows:

GAO ASSUMPTIONS

Electronic Mail Diversion

Run 1: No electronic mail diversion.

Run 2: Electronic mail diversion as follows:

Diversion (billion pieces)

<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
7.1	12.4	19.7	26.7

Run 3: Electronic mail diversion as follows:

Diversion (billion pieces)

<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
7.0	9.9	12.9	16.0

Costs and Rates

Labor costs rise according to contracts similar to the present labor contract.

Non-direct labor costs rise 10 percent per year.

No subsidy legislation changes.

Postage rates are adjusted every 2 1/2 years to adjust revenue to match costs.

Productivity increases 3 percent per year in each run.

DRI forecast TRENDLONG2004 sets the economic environment

Projections

- Run 1. No electronic mail diversion and USPS functions in its traditional role and follows current management practices.

Total workyears required (000)

<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
636	627	597	585

- Run 2. Electronic mail diversion is 26.7 billion pieces of mail by the year 2000.

Total workyears required (000)

<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
598	558	493	469

- Run 3. Electronic mail diversion is 16 billion pieces of mail by the year 2000.

Total workyears required (000)

<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
598	570	534	517





THE POSTMASTER GENERAL  
Washington, DC 20260

December 15, 1980

Dear Mr. Anderson:

This refers to your draft report on the implications of electronic mail for the Postal Service's work force.

The report attempts to project the Postal Service's mail volumes and work year requirements twenty years into the future, using five different scenarios of Postal Service and private sector involvement in electronic communications. Depending upon the scenario, the report projects an 88,000 to 204,000 decrease in required work years by the year 2000. The report says that with proper planning the estimated reductions could be achieved with minimal or no adverse impact on postal employees because 410,000 employees will reach retirement age before the year 2000.

Our August 22, 1980 letter, which appears in Appendix I of the report, discusses the inappropriateness of using econometric or other forecasting techniques to project twenty years ahead in an area like electronic mail where all past prognostications have been subject to large degrees of error. We also point out the danger of any numbers so derived, since they imply an accuracy and precision in the forecast that is just not true.

The report itself points out that any effort to quantify the impact of electronic mail on the work force is an extremely speculative endeavor for reasons that the report cites (pp. 19-20).

Accordingly, the report's projected data on mail volumes and work years must be considered as guesstimates to be used with great caution.

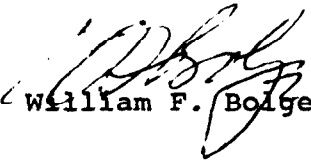
-2-

The same is true of the report's assessment that with proper planning postal work reductions could be achieved with minimal impact on postal employees. Much would depend upon the timing and pace as well as the actual magnitude of changes caused by electronic mail and the other factors discussed in the report.

It should also be noted that the report assumes a direct one-for-one substitution of electronic mail messages for conventional mail. This is not necessarily so. The overall communications market continues to grow at a rapid rate, particularly in the electronic communications area. Much of the growth in electronic communication comes not by diversion from conventional mail but through an expansion of the overall market.

These reservations are not meant to reflect upon the quality of the work done by your fine staff but merely upon the impossibility of their task.

Sincerely,



William F. Bolger

Mr. William J. Anderson  
Director, General  
Government Division  
United States General  
Accounting Office  
Washington, D.C. 20548

## POSTAL RATE COMMISSION

Washington, D.C. 20268

A. Lee Fritschler  
CHAIRMAN

December 5, 1980

Mr. William J. Anderson, Director  
General Government Division  
United States General Accounting Office  
Washington, D.C. 20548

Dear Mr. Anderson:

This is in response to your letter of November 21, 1980, transmitting for our comments a draft GAO report entitled A Look to the Future--What Are the Implications of Electronic Mail for the Postal Service's Work Force? We are pleased to furnish them in this letter.

As we understand GAO's intention in this report, it is primarily to assess, as well as can be done at this time, 1/ the effect of electronic mail development (as well as some other recent changes in postal operations) on the future size of the postal work force. It is our impression that the history of electronic mail as it has developed thus far is distinctly secondary to this main purpose, though it naturally assists the reader to appreciate the background of the main inquiry. It is, however, principally in this area that we are able to offer assistance; our involvement with the entire subject has been principally in connection with the regulatory phase of E-COM's development. (INTELPOST, being an international service, does not fall within the Postal Rate Commission's jurisdiction.) Our comments, therefore, are essentially restricted to that area.

As GAO recognizes correctly (at p. 10 of the draft), the Commission endorses Postal Service involvement in electronic mail. Some passages in the report, however, may appear to create an impression at odds with that fact. In addition, there are passages in which the draft report stresses the time required by regulatory proceedings without clarifying either

---

1/ While we would admit that the cautionary note sounded in Postmaster General Bolger's letter of August 22, 1980, regarding the dangers of using current studies to underpin predictions covering 20 years, has some validity, we do believe that GAO has created a useful product out of perhaps less than ideal materials.

Mr. William J. Anderson  
Page Two

the procedures which require the time to be spent, or the purposes served thereby. In the following suggestions, we try to shed some light on those underemphasized aspects.

Page 1, paragraph 2. The draft refers to "congressional and regulatory hesitation" encountered by the Postal Service. So far as this Commission is concerned, "hesitation" is not quite descriptive. The difficulties encountered in the regulatory process stem, in our view, more from the novel complexities presented by E-COM than from any lack of prompt agency response. As later pages of the draft make clear, for instance, E-COM presented novel problems with respect to the interface between postal and telecommunications regulation. We would suggest that "the necessity for regulatory bodies to cope with novel problems" would better express the matter than "regulatory hesitation." (This material was deleted from final report.)

Page 2, paragraph 5. The draft states that "implementing steps [for E-COM] began in September 1978" and refers to regulatory and judicial delays. This is literally correct, since the filing of the necessary request with the Commission, which took place in September 1978, is an early step toward implementation. As written, however, the sentence might suggest that practical implementation of E-COM began at that time and that the regulatory and judicial procedures were intruded upon it thereafter. This could be clarified by saying "implementing steps began in September 1978, with the USPS' filing of its proposal with the PRC."

In the same paragraph, the reference to the January 1982 implementation date seems to suggest that regulatory and judicial processes will occupy all the time until that date. In fact, the PRC regulatory process was substantially completed when we issued our December 17, 1979, decision; it finally ended when the Governors adopted our decision on the merits on August 15, 1980. It is our understanding that the January 1982 date was chosen to allow time to put the E-COM system together physically. The phrasing here would be clearer, in our view, if the report stated that "the regulatory and judicial process, plus the time needed to implement E-COM in practice, have delayed its implementation which is now scheduled for January 1982."

Page 6, paragraph 3. Here the draft speaks of "Congressional and regulatory opponents" of electronic mail. If, as we believe, GAO is referring to opponents (largely from the communications industry) who have appeared in regulatory proceedings, the sentence is substantially correct. However, we think the wording may imply that the regulatory agencies themselves are "opponents." This is certainly not true of the PRC, as its two decisions in the E-COM matter show. The sentence might be rephrased to

Mr. William J. Anderson  
Page Three

read "Congressional opponents, and parties appearing against the USPS in regulatory proceedings, view USPS' participation . . . ." (This material was deleted from final report.)

Page 9, paragraph 2. It is at this point that we would suggest that GAO inform the reader somewhat more fully as to the nature of the regulatory process involved in E-COM. The paragraph is quite correct, so far as it goes. However, we believe the reader will better understand why the PRC required 15 months to complete the E-COM proceeding if the mandatory procedures are spelled out. As you are aware, Congress has been extraordinarily careful in prescribing the procedures to be followed by the PRC in classification and rate cases. It has required full trial-type hearings, with rights of cross-examination, and decision on a strict evidentiary record. In 39 U.S.C. § 3624(a), the PRC is required to afford

. . . opportunity for a hearing on the record under sections 556 and 557 of title 5 . . . to the Postal Service, users of the mails, and an Officer of the Commission who shall be required to represent the interests of the general public.

While the PRC has streamlined its trial-type hearing procedures as much as possible--e.g., by eliminating the use of Administrative Law Judges and initial decisions and hearing the evidence en banc, and by relying heavily not only on written prepared testimony but on written cross-examination, the basic rights comprehended in the trial-type hearing concept cannot be abrogated. These rights--enjoyed, of course, by the Postal Service as well as other parties--clearly include the opportunity to raise material issues and conduct discovery and oral, on-the-record cross-examination against Postal Service and other parties' witnesses.

We would therefore suggest expanding the end of this paragraph so that it reads:

The Commission, in turn, holds hearings to gain information from USPS, users of the mails, and an Officer of the Commission who represents the interests of the general public. These hearings must be conducted under the trial-type hearing provisions of the Administrative Procedure Act, and the parties consequently enjoy substantial rights to confront and cross-examine each other's witnesses. When hearings are completed and briefs have been filed--and in many cases after oral argument--the PRC renders an opinion and recommended decision to the Governors.

(The omission of the words "Board of" in the last phrase

Mr. William J. Anderson  
Page Four

reflects the fact that the Postmaster General and his Deputy, who are members of the Board but not Governors, do not vote on PRC decisions.)

Page 9, paragraph 4. The wording of the fourth sentence could be misleading. The preceding statement that the proceedings required 29 days of evidentiary hearings plus prehearing and argument sessions is true, but the possible implication that it required 15 months after the completion of those procedures for the PRC to render its decision is inaccurate. The 15-month period ran from the Postal Service's initial submission of its proposal on September 8, 1978. The last day of evidentiary hearings was October 24, 1979; oral argument was held on November 21, 1979; and the Commission thus issued its decision only a short time later (December 17, 1979). We would suggest recasting the fourth and fifth sentences to read: "All of these procedures, plus the time needed for the PRC to consider its decision after the November 21, 1979, oral argument, consumed 15 months. On December 17, 1979, it issued its Opinion and Recommended Decision with three commissioners agreeing and two offering dissenting opinions and recommendations."

Page 10, paragraph 2. The statement that our recommendation for an alternative E-COM system "reduced USPS' management and control of the communications aspect by permitting an unlimited number of communications carriers to participate rather than allowing USPS to contract with one carrier . . ." needs some amplification and change of emphasis, in our view. Some observers have, indeed, started from the premise that the Postal Service's contract with Western Union carried with it some measure of control over the transmission performed by that firm. However, it should be borne in mind that under the alternative recommended by the Commission and now accepted by the Governors, the Service controls, directly, the data processing aspect of E-COM, which before was left to the contractor. This is, of course, an extremely important area. Moreover, the Commission made it clear that, so far as it was concerned, there was no objection in principle to the Service's executing a contract with a carrier so as to have a transmission entity acting as the Service's agent. The only qualification, naturally enough in view of the Commission's concern with competition in communications, was that this arrangement not interfere with free entry and open competition in the transmission phase. We would suggest recasting the sentence to read:

The PRC recommended an alternative E-COM proposal which did not allow for USPS to have under contract to it the sole E-COM transmission entity but instead permitted any willing and able common carrier to connect with the USPS facilities; the alternative also provided for the needed data processing facilities to be directly controlled by USPS itself.

Mr. William J. Anderson  
Page Five

Page 10, paragraph 4. The Commission's second recommended decision was in fact less sweeping than the last sentence of this paragraph would suggest. It would be more accurately summarized by saying:

This decision rejected two of the Governors' proposals, acceded to one--a clarification they had requested of language in the first decision--and undertook to hold new proceedings on two proposals which had not been the subject of hearings during the E-COM case.

Page 10, paragraph 6. It is true that the Governors have expressed enthusiastic support for these two additional features for E-COM. However, we do not think it quite accurate to say that they are viewed as "essential to the ECOM service" without also pointing out that the Governors have ordered the implementation of E-COM even without them. It might therefore be better to say that the Governors "view these features as essential to the E-COM service in a form fully satisfactory to them."

Page 12, paragraph 2. We question whether it is altogether accurate to say that FCC rulings have "slowed ECOM's implementation." In fact, FCC and PRC proceedings went forward in parallel, and we do not believe that events at the FCC delayed our decision beyond its probable date of issuance had FCC not played a role. It is perhaps correct to say that FCC rulings "complicated ECOM's implementation," since there were proceedings there and in the courts which stemmed from the impact of the Communications Act on the E-COM plan.

Page 12, paragraph 5. We would suggest that the statement that "USPS does not yet have a defined role in electronic mail" is somewhat too sweeping. The PRC proceedings have resulted in a defined role which, while it may not represent the full scope of eventual Postal Service involvement, does seem to represent a firm commitment by its governing bodies. We would suggest saying, instead:

The USPS does not yet, except for its commitment to provide the data processing and delivery phases of E-COM, have a fully defined role with respect to every possible aspect of electronic mail . . . .

(This material was deleted from final report.)

Page 23, paragraph 4. The same statement is made here as on p. 12, paragraph 5; and we would suggest a similar clarification.

Page 27, paragraph 2. If, as seems to be correct, the text here compares scenario 4 with scenario 5, should not the difference in work-year reductions be "5,000" rather than "7,000?"

Mr. William J. Anderson  
Page Six

Appendix I, entry for 12/2/78. If the reference to commencement of E-COM service on this date is intended to reflect the Service's power to institute temporary rates pending a PRC decision, this fact should be made clear (see 39 U.S.C. § 3641).

Appendix I, entry for 12/17/79. The purport of the PRC decision would be more accurately reflected by an entry reading

PRC recommends new class of mail covering type of service applied for by USPS, but endorses a different system design than USPS proposed.

Appendix I, entry for 1/22/80. This date should be "2/22/80." Also, the entry fails to reflect the fact that the Governors endorsed the PRC-recommended system; it would be more accurate to say:

USPS Governors endorse basic structure of PRC recommended decision on E-COM service, but reject decision and propose that PRC modify it in five specific areas. These were: (i) clarification of the PRC ruling on USPS' power to contract with carrier; (ii) authorization for USPS to fix quality standards for carriers; (iii) withdrawal of PRC designation of E-COM as experimental; (iv) addition of direct interconnection for private communications systems; (v) addition of direct physical delivery of data tapes.

Appendix I, following entry for 4/08/80. We would suggest inserting an entry here, reflecting the PRC's undertaking to examine the Governors' two new proposals, reading:

5/27/80 PRC established new docket to consider direct connection of private lines and direct delivery of data tapes to USPS, per Governors' proposals contained in their 2/22/80 decision.

In addition to our specific comments, listed above, we would offer one more general observation. As is common among analysts of public management, the authors of the draft report speak of regulatory "delay." While no one denies that regulatory procedures consume time--especially, perhaps, when conducted as ours must, by statute, be under the trial-type hearing provisions of the Administrative Procedure Act--the use of the term "delay" may lead the reader to overlook the fact that those procedures are designed to determine whether, and in what form, a proposed new service is desirable. The connotation of "delay," however, is that a novel service known or assumed to be desirable has failed of implementation within a reasonable time because of the regulatory process. We would suggest that GAO consider adding to the discussion in chapter II of the draft report a sentence or two making it clear that GAO's use of the word "delay" should not be so read, but is intended only to contrast




Mr. William J. Anderson  
Page Seven

the time frame in which E-COM and INTELPOST might physically have been brought on line (without regard to whether regulatory concerns had been duly met) with the time frame that has in fact governed. We assume that this point or something like it is what GAO really intends to convey, since it is not suggested in the report that the concerns dealt with in the E-COM proceedings were not genuine and highly significant.

In general, we feel that the draft report represents a lucid and concrete treatment of a difficult and significant topic. We look forward to seeing it, and perhaps utilizing it, in its final form. If we can supply any further information, please do not hesitate to call on us.

Commissioner Duffy is abstaining from these comments on the draft report, as he dissented from the Commission's E-COM decision.

Sincerely,



A. Lee Fritschler  
Chairman

## FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

DEC 8 1980

IN REPLY REFER TO:

Mr. William J. Anderson  
Director, General Government Division  
U.S. General Accounting Office  
Rm. 3866  
441 G St., NW  
Washington, D.C. 20548

Dear Mr. Anderson:

At the invitation of Jim New, I am submitting a brief explanation of the FCC's concerns about, and regulatory developments potentially affecting, the Postal Service's electronic mail offerings for possible inclusion in your report on the implications of electronic mail for the Postal Service's work force. Language something like the following in Chapter 2 of your report might prove helpful:

The policy concerns about the Postal Service's ECOM proposal urged upon the Federal Communications Commission derived from a fear that the Postal Service (a) would attempt to interpose the Private Express Statutes as a bar against other entities' physical delivery of hard copies of record messages transmitted by electronic means, and (b) might employ its dominant position with respect to the physical delivery of hard copy in a discriminatory manner to the advantage of its joint venturor or transmission vendor and the disadvantage of all other transmission companies and their customers. Graphnet Systems, Inc., 73 F.C.C. 2d 283, 295-96 & n. 21. (1979)

Regulatory developments since the FCC's declaratory ruling with respect to its jurisdiction over the proposed ECOM offering have served to clear away some of the substantive Communications Act issues raised by the Postal Service's participation in the electronic mail business. These developments raise the possibility that the FCC's regulatory involvement in electronic mail offerings will be quite limited. Computer Inquiry II (Docket 20828) has established a distinction between basic and enhanced services, the former subject to active regulation under Title II of the Communications Act but the latter not subject to any regulatory regime at present. To the extent that the Postal Service's

Mr. William J. Anderson  
Page 2

electronic mail offering is regarded as an enhanced service, then, it would not be regulated. Moreover, in its Competitive Carrier Rulemaking (CC Docket 79-252), the FCC is exploring the possibility of deregulating resale carriers of all sorts. Thus, it is possible that even if the Postal Service's electronic mail constitutes a basic service, and thus subject to Title II regulation under existing doctrine, it might be deregulated at the conclusion of the Competitive Carrier Rulemaking.

If I can provide any clarification or additional information about this matter, I would be happy to do so.

Sincerely,

  
Philip L. Verveer

(222002)





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