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Report to the Chairman, Subcommittee on Federal Services, Post Office and Civil Service, Committee on Governmental Affairs, U.S. Senate

May 1994

POSTAGE METERS

Risk of Significant Financial Loss But Controls Are Being Strengthened

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May 26, 1994

The Honorable David Pryor
Chairman, Subcommittee on Federal
Services, Post Office and Civil Service
Committee on Governmental Affairs
United States Senate

Dear Mr. Chairman:

This report responds to your request that we review fraudulent postage meter activities. Your request followed the Postmaster General's public disclosure in 1993 that significant revenue losses had occurred as a result of meter fraud. You were interested in knowing (1) how long meter fraud had been occurring and whether it involved a specific type or brand of meter, (2) what conditions allowed the fraud to occur, and (3) what actions the Postal Service is taking to address the problem.

Results in Brief

Over the years, unscrupulous mailers have taken advantage of weaknesses in the metered mail program to avoid paying millions of dollars in postage. Since 1985, the Postal Inspection Service has closed more than 130 cases of meter fraud with documented losses totaling about $25 million. Another 28 cases were being investigated as of December 1993, potentially involving at least an additional $11 million. The variety of fraud schemes that have been successfully perpetrated in the meter program—which brought in about $21 billion of the $45.7 billion total postage revenue in 1993—and the significance of potential losses led the Postmaster General to state in September 1993 that revenue losses from fraud could be costing the Postal Service $100 million or more per year.[1]

Revenue losses stem from criminal tampering with postage meters, counterfeiting of meter indicia, and criminal use of lost or stolen meters to produce meter indicia for which postage was not paid. There have also been cases involving criminal use of malfunctioning meters to produce meter indicia for which postage was not paid. Of the 1.4 million postage meters in use as of November 1993, 636,000 meters (45 percent) made by Pitney Bowes and Ascom Hasler are vulnerable to tampering, according to the Postal Service.

[1]The Postal Service, in 1993, using available data on mail volume and revenue, estimated that its losses from meter fraud could be as high as $171 million annually. However, Postal officials have acknowledged that they do not have the data necessary to accurately determine total losses.

The risk of revenue losses from meter fraud are high because of weaknesses in meter design and ineffective program controls. The physical control devices built into meters—ascending and descending registers, lead seals, and key locks—have been circumvented. Also, ineffective program controls relating to meter licensing, inspections, and management information are not capable of preventing and/or identifying fraudulent postage meter activities.

Although the Postal Inspection Service initiated a number of meter fraud investigations on the basis of tips, and reported on problems in the late 1980s, Postal Service top management was slow in responding to the need for corrective actions. The responsible program office had not been adequately staffed, and postal officials said that top management, at the time, did not want to potentially hurt customer service by tightening controls over meters and metered mail. Postal officials also said that management did not feel a sense of urgency to make changes in the program because they believed the controls, at the time, were cost effective considering the few documented cases of meter fraud that involved significant losses.

The Postal Service has relied on meter manufacturers to help ensure that meters are properly designed and controlled to prevent fraud. However, through its testing program, the Postal Service has traditionally placed greater emphasis on meter durability than security. Therefore, the incentive for meter manufacturers to upgrade security was not as great as the incentive to ensure durability.

Recently, the Postal Service has undertaken a number of major initiatives, which, if properly implemented, have the potential to improve the meter program. For example, it established a high-level management team charged with cleaning up the meter program. That team has initiated a number of substantive changes and continues to develop other short- and long-term changes that will require management's attention and support for many years to correct the problem. These changes range from decertifying and/or retrofitting problem meters to developing technology that would allow the Postal Service to match postage received with the volume of mail processed. Until those changes are fully implemented and operating effectively, the Postal Service will not be able to substantially reduce the risk of losing revenue to meter fraud.

Background

Metered mail is the largest single source of revenue for the Postal Service—accounting for about $21 billion (46 percent) of the postage revenue in 1993 and 37 percent (55 billion pieces) of the total mail volume. When mailers purchase postage, meters with remote resetting capabilities are reset by the meter manufacturers, and meters without that capability are reset by postal clerks. Currently, four manufacturers lease Postal Service approved meters directly to mailers: (1) Pitney Bowes, (2) Ascom Hasler, (3) Friden Neopost, and (4) Postalia. Since the inception of the program in 1920, Pitney Bowes has been the dominant manufacturer, accounting for about 88 percent of the 1.4 million meters currently being used in the United States.

The nature of meters—i.e., the capability to print postage—has always made them targets of opportunity for fraud. For this reason, a number of device and program controls have been used to help ensure the integrity of the meters. Despite these controls, meter fraud has occurred over the years.

Additional background information on meters is presented in appendix I.

Objectives, Scope, and Methodology

Our objectives were to (1) determine how long meter fraud had been occurring and whether it involved a specific type or brand of meter, (2) examine the system of controls over meters that permitted the fraud to occur, and (3) identify management's ability to oversee the meter program in the past and identify recent management initiatives to address meter fraud problems.

To accomplish objectives one and two, we (1) researched the development of the postage meter program; (2) reviewed data from existing Postal Service audit and investigative reports, including automated files containing data on meter fraud investigations that have been closed since 1985; (3) reviewed the investigative folders for 11 of the most significant closed meter fraud cases; (4) interviewed cognizant Postal Service headquarters officials; (5) observed metered mail operations at a large Postal Service mail processing center; (6) interviewed representatives from Pitney Bowes—the dominant manufacturer of meters currently in use; (7) interviewed Postal Service managers who are responsible for approving meters for use; and (8) interviewed Inspection Service officials at the Postal Service crime laboratory who are responsible for examining meters when tampering is suspected. To identify the Postal Service's corrective actions, we documented, reviewed, and discussed with postal

officials and Pitney Bowes representatives the initiatives that the Postal Service has under way to address the meter fraud problem. We did not evaluate the effectiveness of any of the initiatives.

We did our work from November 1993 to April 1994, in accordance with generally accepted government auditing standards. We did our work primarily at Postal Service headquarters in Washington, D.C.

We requested comments on a draft of this report from the Postal Service; Pitney Bowes; Ascom Hasler; Postalia, Inc.; and Friden Neopost. Written comments were received from the Postal Service; Pitney Bowes; Ascom Hasler; and Postalia, Inc., and are presented and evaluated at the end of this letter and reprinted in appendixes V, VI, VII, and VIII. The President of Friden Neopost stated he was not providing comments.

The Postal Service Has Experienced Revenue Losses From Various Types of Meter Fraud

Since 1985, the Postal Inspection Service has documented losses totaling $25 million in meter fraud cases involving tampering, counterfeiting, using lost or stolen meters, and using malfunctioning meters to produce "free" postage. Some cases involved large revenue losses that went undetected for many years.

Tampering is typically accomplished by circumventing the key lock, lead seal, baffles, and other mechanisms designed to keep someone from manipulating a meter's internal mechanisms to print unrecorded "free" postage. The Postal Service has determined that mechanical meters are more susceptible to indiscernible tampering than electronic meters. The high-volume Pitney Bowes R-Line series of mechanical meters has been identified by the Postal Service as being particularly vulnerable to tampering.

Counterfeiting involves creating a meter mark with anything other than a legitimate postage meter. For example, counterfeiting can involve making reproductions of legitimate meter marks or creating a die that could be used in a high-speed, high-volume mailing operation. An example of a case involving counterfeiting occurred in 1987. It involved the owner of a small business who used a stencil and duplicating machine to create counterfeit meter marks.

Lost and stolen meters are a threat to the Postal Service because about 83,000 meters are not accounted for and are no longer subject to inspection. A large-dollar case uncovered by the Inspection Service

involved a commercial parcel and retail mail establishment that reported some meters either lost or stolen but then used those meters—which had not really been lost or stolen—in conjunction with parts from legitimate meters to print postage that had not been paid for. From 1982 to 1986, this scheme deprived the Postal Service of an estimated $2.9 million.

Our review of the meter fraud cases in the Inspection Service's database showed that the five largest cases closed since 1985 involved meter tampering. Two of those cases involved meters that were also reported lost or stolen. In four of the five cases, Pitney Bowes R-Line meters had been used to avoid paying postage totaling about $23 million. The fifth case involved another Pitney Bowes model that had been used to avoid paying about $1 million in postage.

One case of tampering involved a scheme that went undetected for 17 years—from 1972 until 1989. A company that had rented 10 R-Line meters from Pitney Bowes hired a former Pitney Bowes employee to illegally reset the postage value on the meters. The estimated loss for the entire period could not be determined, but the Inspection Service estimated that between 1984 and 1989, the company avoided paying $3 million in postage.

Revenue losses also occur when meters malfunction. For example, sometimes meters reset themselves for the maximum amount of postage available on the machine.

The Postal Service has not attempted to hold meter manufacturers liable for any portion of revenue lost because of tampering or meter malfunctions.

A detailed discussion of meter fraud cases is presented in appendix II.

Meter Controls Are Ineffective

An ineffective system of controls, coupled with increased postage rates and a growing number of meters in use, created an environment that provided both incentive and opportunity to commit fraud. Physical controls on the meters to prevent unauthorized access to internal mechanisms were often circumvented, and program controls were largely ignored or ineffective.

Controls used to protect the integrity of the meters—(1) ascending and descending registers that record used and remaining postage and (2) lead seals and key locks that limit access to the internal workings of the

meters—are no longer reliable control devices. The internal registers can be manipulated in a way that allows the mailer to get "free" postage and leave no readily identifiable signs that the meter has been compromised.

The lead seals and key locks have also become obsolete. This was pointed out by both the Inspection Service and the metered mail task force that was established in 1991 to examine the metered mail program. Lead seals are available commercially and can be removed and replaced without detection. Also, the Inspection Service believes—on the basis of audits at 57 post offices in the New England area, which showed that 92 of 285 total keys could not be accounted for—that a significant percentage of the 129,000 keys that have been issued nationwide are missing.

Postal Service program controls are also ineffective. The current licensing application process allows a customer to obtain a meter license without any comprehensive verification of the information stated on the application. Additionally, existing licensing procedures do not provide detailed information about the mailers, their businesses, or their mailing practices.

Also, the Inspection Service and the metered mail task force have reported that the procedures for verifying the legitimacy of metered mail indicia are ineffective and/or widely ignored. These verification procedures call for visually inspecting a sample of metered mail quarterly. But this control cannot fulfill its intended purpose because visually identifying quality counterfeit meter marks is impossible, and meter indicia on the mail are often unreadable. In addition, the control cannot identify instances where indicia dies have been removed from legitimate meters and used on lost and stolen meters to print "free" postage. The effectiveness of the quarterly verification process is further compromised because data on lost and stolen meters are inaccurate.[2]

The Postal Service's efforts to manage the meter program have been further hindered by a lack of basic data necessary to identify how much revenue was received for a given volume of mail handled—i.e., the Postal Service is unable to determine whether mailers have purchased sufficient postage to cover their mail. In addition, the Postal Service does not maintain data that identify high-risk mailers. That information must be obtained from the meter manufacturers.

[2]On April 11, 1994, Postal officials informed us that they will discontinue using the quarterly verification process as a means for verifying the legitimacy of metered mail indicia. In its place, the Postal Service will be statistically sampling metered mail and comparing it to an automated list of lost and stolen meters.

The overall lack of control over metered mail is no secret among mailers. In May 1993, the Chief Postal Inspector asked several major mailer associations to help identify ways the Postal Service could be cheated out of revenue. They identified meter fraud as one of the primary methods.

A detailed discussion of the system of controls is presented in appendix III.

Management Has Recently Initiated Short- and Long-Term Program Improvements

Management was slow in responding to problems identified by the Inspection Service and failed to establish an appropriate structure with sufficient staff to effectively oversee program operations. Recently, however, the Postal Service began taking numerous actions to deal with meter fraud.

Beginning in the mid-1980s, serious shortcomings with the metered mail program began to surface. In 1985, the Inspection Service began systematically documenting the results of its meter fraud investigations. By the end of 1989, the Inspection Service had documented about 60 meter fraud investigations and had reported to management that the present system and procedures for controlling postage meters and metered mail revenue were not adequate or effective. In 1990, the Inspection Service also reviewed 24 of the largest mail processing facilities in the nation to determine the effectiveness of quarterly verifications of metered mail. They found that only 11 facilities, less than one-half, were doing the verifications as prescribed.

Despite these warning signs and the substantial revenue at risk, Postal Service management was slow to act. It was not until 1991 that management began to examine the metered mail program by organizing a task force. That task force reported in 1992 that the management of the meter business at Postal Service headquarters was significantly understaffed and lacked the appropriate structure for effective oversight and program direction. The report noted that the day-to-day management of the multibillion dollar metered mail program was left to one director and five staff members, all of whom had other responsibilities.

As of March 15, 1994, the Postal Service had taken some actions and was planning to take other actions to improve management and controls over the meter program. Other possible actions were also being considered at that time. Postal officials acknowledge, however, that many of the changes needed are expected to take many years to develop and implement.

The primary step taken by the Postal Service to improve the management of the meter program was to create, in early 1993, a high-level management action team. The team comprises two groups: an oversight group of vice presidents and a working group of managers. The team has developed some new initiatives to improve controls over the metered mail program relating to meter technology, meter licensing procedures, and lost and stolen meters. For example, the Computer Science School of Carnegie Mellon University is under contract to (1) explore new technologies for second-generation meters that would not be susceptible to tampering, (2) develop performance criteria that the Postal Service can use to evaluate future metering systems, and (3) evaluate the security of all models of electronic meters previously authorized by the Postal Service.

Postal management is also taking steps to modify the 636,000 meters most susceptible to indiscernible tampering.[3] The Postal Service is requiring that all these meters be modified, with top priority going to those meters operated in third-party mailer operations. Third-party mailers prepare mailings for other businesses. Modifications are expected to be completed within 4 or 5 years. In addition, Pitney Bowes has been notified that its R-Line meters will no longer be certified for use after January 4, 1995. According to Postal officials, the meters could not be decertified immediately because of the time and money required for customers to convert to another metering system.

Other key improvement initiatives being implemented include

- developing a new meter accounting and tracking system that would centralize record keeping and could ultimately be used in determining, for each individual meter, the volume of mail imprinted and the amount of postage paid;
- enlisting the services of Carnegie Mellon University to help in the technical evaluation of electronic meters;
- updating test specifications for the design and manufacture of meters with more emphasis on security;
- testing a new polycarbonate seal, which cannot, like lead seals, be easily removed from meters without detection;
- exploring with Carnegie Mellon new ways to secure postage meters using an electronic access system instead of keys;

[3]Indiscernible tampering is not detectable during routine periodic examinations and sometimes cannot be detected under laboratory analysis.

- expanding the meter license application to provide more detail and making local post offices responsible for verifying applicant information; and
- revising the procedures manufacturers must follow in tracking down and reporting lost and stolen meters.

The Postal Service is also considering

- imposing a number of administrative sanctions on meter manufacturers who fail to fully discharge their responsibilities in producing secure meters or who fail to perform other administrative requirements, such as conducting periodic inspections and accounting for all meters, including those lost and stolen; and
- holding the manufacturers financially responsible, in part or whole, for meter designs that are susceptible to tampering and that result in lost revenue to the Postal Service.

A detailed discussion of the management of the meter program is presented in appendix IV.

Conclusions

Sustained management attention to establishing adequate control over metered mail is necessary to reduce the Postal Service's exposure to the risk of substantial revenue losses. Metered mail represents about 46 cents of every dollar the Postal Service collects in postage. Meters are used to print postage, which is a marketable, liquid asset. However, much of the control over meter activities has resided with firms outside the government, namely meter manufacturers. The Postal Service recognizes that it needs to gain greater control over meters and is preparing to do so. The Postal Service is undertaking a number of short- and long-term initiatives, including improving various aspects of the meter program, such as meter technology, meter licensing procedures, and the identification of lost and stolen meters.

Those initiatives and others, if properly implemented, appear to have the potential for improving the meter program in the long run. However, the effectiveness of the meter program will hinge on management's sustained attention to substantially reducing the risk of meter fraud. This includes maintaining accountability for meter program operations, ensuring that the technology and security employed in meters are effective, and working to establish and maintain an adequate system of controls for deterring and detecting meter fraud.

Recommendations

Given that the Postal Service has many initiatives under way, we are making no recommendations at this time.

Agency and Meter Manufacturers' Comments and Our Evaluation

The Postal Service, in commenting on a draft of this report, acknowledged weaknesses in its meter program and expressed confidence that the broad array of short- and long-term initiatives it is vigorously pursuing will significantly strengthen the program. As we stated earlier in this report, the initiatives appear to have the potential for improving the meter program in the long run. The Postal Service's comments are included as appendix V.

Pitney Bowes said that we reported facts without providing proper perspective or context. Pitney Bowes cited four specific points. First, Pitney Bowes stated that we had not put revenue losses from meter fraud into proper perspective. It indicated that the metered mail system is among the most secure revenue collection systems in existence, with known losses equating to less than 2/100ths of 1 percent of total meter revenues collected. Considering the documented weaknesses in the meter program's system controls, we believe it unwise to assume that the only losses are those that have been identified and that more effective controls are not needed unless more significant losses are identified. The present system of controls does not provide reasonable assurance that the objectives of the systems will be accomplished.

Furthermore, known losses were not discovered by the system of internal controls; most were brought to the Postal Service's attention through outside sources—informants. Our report showed that the security of the metered mail program and the total revenue lost due to fraud could not be determined.

Second, Pitney Bowes said that while the report noted that 555,000 of its meters are vulnerable to tampering, the report failed to point out that approximately 75 percent of those meters are operated by small businesses, in low-risk environments, whose average output is 20 letters per day. Pitney Bowes said these businesses lack the financial incentive to compromise the system because their metered mail averages less than $6.00 per day. Pitney Bowes further said that fewer than 2,700 of its meter customers fall into the "high-risk" category.

As pointed out earlier in this report, producing meter indicia is done in the mailer's uncontrolled environment and without an audit trail. Therefore,

the Postal Service is heavily dependent on the physical integrity of meters to help ensure that revenues are not being lost through fraudulent activities. However, the Postal Service does not have that assurance with about half of the meters currently in use—those known to be susceptible to indiscernible tampering.

We also disagree that small businesses, by definition, lack the financial incentive to compromise the meter system. In fact, most of the meter fraud cases documented by the Inspection Service involved small businesses. Additionally, fraud schemes in small businesses can be well concealed and difficult to detect because the number of individuals involved in the scheme may be few—perhaps only one person. We do not believe it would be prudent to assume that low-volume meter users are immune to fraud. All mailers using meters have financial incentive to reduce mailing costs, and the system has been inadequate in preventing meter fraud.

Third, Pitney Bowes indicated that most of the meters on the lost and stolen list pose no serious threat to Postal Service revenue because a significant proportion of the entries on the list represent "record discrepancies" due to unprocessed paperwork or are reflective of meters that have been lost in fires, floods, or earthquakes. Pitney Bowes also pointed out that the population of lost and stolen meters is an accumulated total of more than 70 years of postage meter history.

We believe the threat from lost and stolen meters should not be underestimated, even if some of the entries on the lost and stolen list represent "record discrepancies" or meters that were lost in fires, etc. For example, in one fraud case, six meters that were considered lost or stolen were used to defraud the Postal Service of more than $2.9 million. Potential losses from thousands of other unaccounted-for meters represent a substantial risk to the Postal Service. Also, of particular concern is the growth of the number of meters reported lost or stolen. In the last 5 years, more than 30,000 new entries have been added to the lost and stolen list. Furthermore, the Postal Service is so concerned about lost and stolen meters that it is considering financial sanctions against manufacturers who fail to meet Postal Service standards for tracking and reporting lost and stolen meters.

Fourth, Pitney Bowes took issue with a statement in the draft which indicated that meter manufacturers lacked the same financial incentive to improve security as they did to improve meter durability. Pitney Bowes said its record bore evidence to its security commitment.

We do not doubt Pitney Bowes' commitment to producing secure postage meters. However, because the Postal Service identified 555,000 of Pitney Bowes' 1.2 million meters as susceptible to indiscernible tampering, we believe considerably more needs to be done to ensure the security of meters. Nevertheless, we revised our report to emphasize that the Postal Service, through its testing program, placed greater emphasis on meter durability than security. In turn, the Postal Service's emphasis on durability did not provide the manufacturers as great an incentive to upgrade security as to ensure durability. Pitney Bowes' comments are included as appendix VI.

Ascom Hasler said that it was essentially in agreement with the observations we made in the draft report. However, it said that there was another issue it believed needed to be discussed. It said that meter fraud is, to a great extent, the result of outdated meters, which do not employ new technology that would make tampering much more difficult. It said that a permanent solution to meter fraud lies with new technology meters "...armed with state-of-the-art fail-safe security devices..."

Ascom Hasler also said that although new technology is well within the reach of meter manufacturers, it is not being adequately developed because of existing patents, which prevent the introduction of technological advances. Although our report concludes that the effectiveness of the meter program will depend on, among other things, effective meter technology, an examination of industry patent practices was outside the scope of our review. Ascom Hasler's comments are included as appendix VII.

Postalia also commented on problems caused by patents. It said that meter technology has not produced state-of-the-art security because existing patents restrict competition and prevent the marketing of more modern and secure systems. As previously noted, we did not review industry patent practices. Postalia's comments are included as appendix VIII.

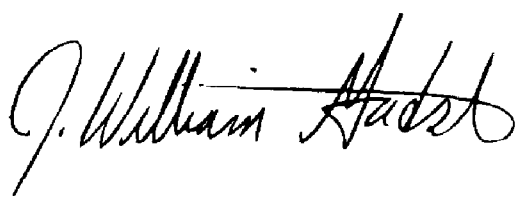
The President of Friden Neopost told us on May 3, 1994, that he saw no problems with the draft report and therefore would not be providing written comments.

As agreed with the Subcommittee, unless you publicly announce its contents earlier, we plan no further distribution of this report until 15 days from the date of this letter. At that time, we will send copies of this report

to the Postmaster General; the President of Postalia, Inc.; the President of Ascom Hasler; the President of Friden Neopost; and the Vice President, Worldwide Postal Affairs, of Pitney Bowes and will make copies available to others upon request.

Major contributors to this report are listed in appendix IX. If you have any questions about this report, please call me on (202) 512-8387.

Sincerely yours,



J. William Gadsby
Director, Government
Business Operations Issues

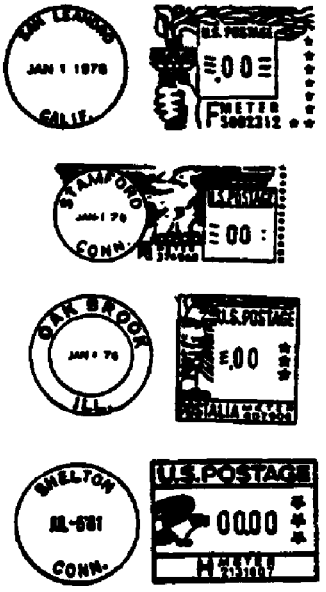
Contents

Abbreviations

PIN personal identification number

Background

Figure I.1: Typical Meter Indicia, Postage Meter, and Postage Meter Mounted on a Mailing Machine



(1a) typical meter indicia

(1b) Postage meter

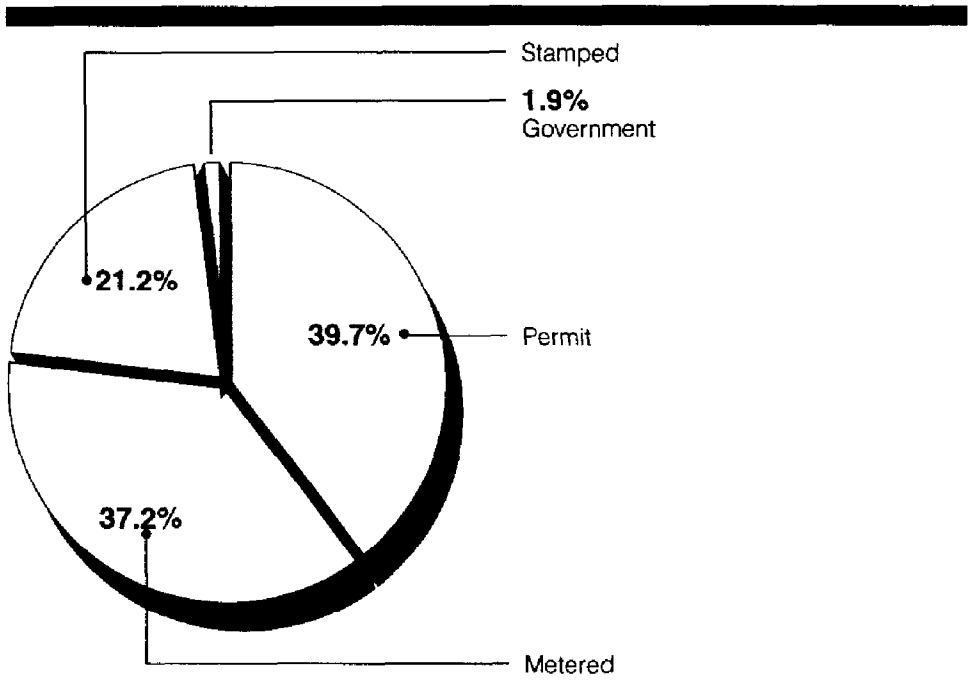
Postage meters are mechanical or electronic devices that make an imprint of postage paid either directly on the mail or on a strip of paper known as a meter strip, which is subsequently attached to the upper right corner of a piece of mail. The meter indicia is, in reality, a substitute postage stamp, a cancellation mark, and a postmark all in one. The indicia also includes a unique meter identification number. Figure I.1 shows typical meter indicia (1a), a postage meter (1b), and a postage meter mounted on a mailing machine (1c).

(1c) Postage meter mounted on a mailing machine

Source: Postal Service.

Anyone wishing to use a meter must first obtain a license from the Postal Service. After obtaining a license, the mailer can then lease a meter from any one of four authorized manufacturers in the United States—Pitney Bowes, Ascom Hasler, Friden Neopost, or Postalia. As of November 1993, there were about 1.4 million licensed meters in use that produced postage indicia for about 1 in every 3 pieces of mail processed by the Postal Service. Meters typically rent for $15 to $60 per month. Figure I.2 shows, by type of postage, mail volume makeup for fiscal year 1993.

Figure I.2: Mail Volume Makeup, Fiscal Year 1993

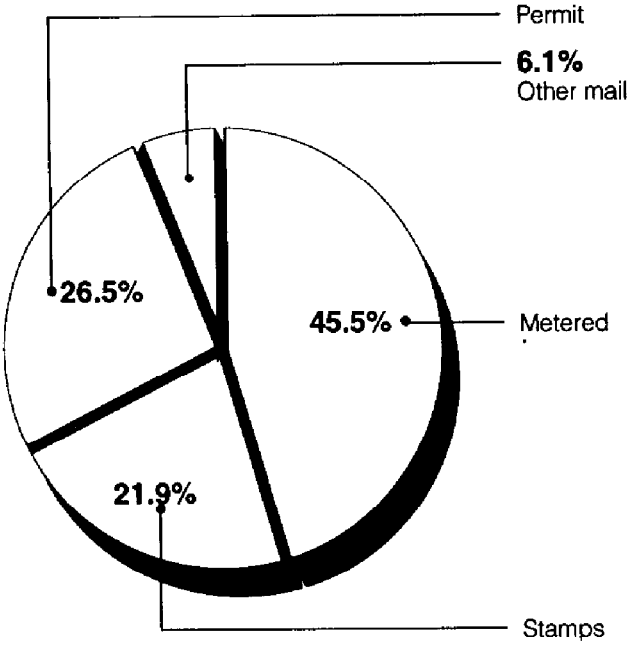


Note: Excludes second class, mailgrams, express, and international mail.

Source: Postal Service data.

Metered mail is the largest single source of revenue for the Postal Service. For fiscal year 1993, meters accounted for $21 billion in postage—about 45.5 percent of the Postal Service's $45.7 billion in postage revenue. Permit mail and stamps accounted for about 26.5 percent and 21.9 percent, respectively. The remaining 6.1 percent of postage revenue came from second-class and official government mail. Figure I.3 shows the percentage of total revenue received during fiscal year 1993 from each source.

Figure I.3: Postage Revenue, Fiscal Year 1993



Source: Postal Service data.

Since meters were first introduced in 1920, they have become an increasingly popular means for affixing postage, especially in high-volume business settings. They offer mailers an alternative to permit mail and to purchasing, controlling, and affixing stamps.

The Postal Service also benefits from meters in that fewer stamps have to be produced, accounted for, distributed, and sold. Also, metered mail saves the Postal Service time because, unlike stamped mail, metered mail does not have to be canceled. However, Postal officials said that because of (1) the cost of administering the meter program and (2) revenue losses from meter fraud, it is not clear whether meters represent an actual cost savings to the Postal Service.

Since the inception of the meter program, Pitney Bowes has been the dominant manufacturer of postage meters leased in the United States. Currently, about 88 percent of the meters in use were manufactured by

Pitney Bowes. Table I.1 shows the number of meters currently in use, by manufacturer.

Table I.1: Number of Meters in Use, by Manufacturer

Meter manufacturer	Number of meters	Percentage of total
Pitney Bowes	1,200,000	87.5%
Ascom Hasler	81,000	5.9
Friden Neopost	73,000	5.3
Postalia	18,000	1.3
Total	**1,372,000**	**100.0%**

Source: Postal Service data.

The very nature of meters—i.e., the capability to print postage—has always made them targets of opportunity for fraud. Consequently, a number of security devices and controls were employed to help ensure the physical integrity of the meters. Two such controls are (1) internal ascending and descending registers that record used and remaining postage, and (2) lead seals and key locks that limit access to the internal workings of the meters.

A number of program controls were also established to help curtail fraudulent activities. The more prominent controls include licensing requirements, unannounced periodic inspections of meters by meter manufacturers, and 6-month examinations by postal officials—even if no postage has been used. The Domestic Mail Manual also requires that quarterly random verifications of metered mail be done. The periodic inspections are designed to check for proper meter operation and signs of tampering. The quarterly verifications are designed to detect

- the use of unauthorized meters, including meters that have been reported as lost or stolen;
- altered or counterfeit meter marks;
- improper mailing practices, especially the use of incorrect postmark dates; and
- shortpaid mail—i.e., mail for which the full postage due has not been paid.[4]

Metered mail operations are also part of the routine inspections performed by the Inspection Service. The metered mail program has been subjected

[4]As noted earlier in this report, the Postal Service will be discontinuing its quarterly verifications of metered mail indicia.

to at least two comprehensive examinations—one by the Inspection Service, between December 1987 and July 1988, and the other by a special metered mail task force, established by the Postmaster General in 1991.

The Postal Service Has Experienced Revenue Losses From Various Types of Meter Fraud

For many years, the Inspection Service has been documenting postage meter fraud cases involving tampering, counterfeiting, using lost or stolen meters, and using malfunctioning meters to produce "free" postage. Some fraud cases involved large revenue losses and went undetected for many years.

Inspection Service Has Identified Four Categories of Fraud

The Inspection Service's automated database of open and closed case files showed that since 1985, the Inspection Service has investigated 160 cases of suspected meter fraud. Of those cases, 132 were closed and 28 remained open at the end of 1993. The closed cases resulted in 50 convictions and an estimated loss to the Postal Service of $25 million. Records maintained by the Inspection Service's counsel showed that between fiscal year 1987 and the end of fiscal year 1993, court-ordered fines and restitutions for meter fraud totaled about $9 million. As of September 1993, only about $1 million of those fines and restitutions had been collected. According to Inspection Service officials, the 28 cases that remained open as of December 1993 involved about $11 million in additional revenue losses.

Information on meter fraud cases investigated before 1985 was limited. The Inspection Service's automated database did not contain information on investigations conducted before that date, nor are the actual case files centrally located. Therefore, we could not determine the incidence of meter fraud before 1985.

Meter fraud cases investigated by the Inspection Service typically fell into three categories: (1) tampering with postage meters to generate unpaid postage, (2) counterfeiting meter marks by means of printing or duplicating, and (3) using lost or stolen meters to print postage for which the Postal Service was not paid. The Inspection Service has also investigated a number of cases involving malfunctioning meters. Some large fraud cases involved schemes that went undetected for years before the Inspection Service became aware of the fraud.

Tampering With Meters

Tampering involves using a postage meter to print postage that has not been purchased. This is typically done by circumventing the key lock, lead seal, baffles, and other mechanisms designed to prevent access to, and tampering with, the meter's internal mechanisms. If the mechanisms can be manipulated, then unrecorded "free" postage can be printed by the meter.

Recent cases that received national attention involved what the Postal Service calls "indiscernible" tampering. That is, there were no indications that the registers had not accurately tallied the postage that was printed. The Postal Service has determined that mechanical meters are more susceptible to indiscernible tampering than electronic meters. Approximately 636,000 (45 percent) of the 1.4 million meters in use as of November 1993 have been identified as being susceptible to tampering. Approximately 555,000 of these meters are manufactured by Pitney Bowes. The remainder are manufactured by Ascom Hasler.

A high-volume mechanical meter that the Postal Service has identified as being particularly vulnerable to tampering is the Pitney Bowes R-Line series, which has been the workhorse of very large mailers for over 40 years.[5] This type of meter is to be decertified by the Postal Service in January 1995. According to Postal officials, about 8,000 of these meters are currently in use and are being modified. Our review of the meter fraud cases in the Inspection Service's database showed that the five largest cases closed since 1985 involved meter tampering. In four of the five cases, Pitney Bowes' R-Line meters had been used to avoid paying postage totaling about $23 million. The fifth case involved another Pitney Bowes model used to avoid paying about $1 million in postage. Two of the five tampering cases involved meters that were reported lost or stolen.

Counterfeiting Meter Marks

Counterfeiting involves creating a meter mark with anything other than a legitimate postage meter. For example, counterfeiting can involve making reproductions of legitimate meter marks or creating a die, which could be used in a high-speed, high-volume mailing operation. Postal officials do not know the extent of counterfeiting losses but expressed concern to us that counterfeiting may be a bigger problem than previously recognized—primarily because counterfeit meter marks are often impossible to detect with the naked eye. Quality counterfeit impressions can usually be detected only through laboratory analysis. However, laboratory analysis is done only on suspect impressions.

Using Lost or Stolen Meters

The criminal use of lost or stolen meters to print unpaid postage represents a high potential for revenue losses—especially since the number of lost and stolen meters has grown to about 83,000. The metered mail task force noted that lost and stolen meters are a major threat to the

[5]High-volume mechanical meters are typically mounted on high-speed mailing machines, allowing losses to the Postal Service, from improper use, to accumulate quickly.

Postal Service because they are not accounted for and are no longer subject to prescribed controls or periodic inspections. Therefore, individuals in possession of lost or stolen meters can print free postage with little worry of being caught. Some meter users move to new locations and purposely do not report their whereabouts to the Postal Service or to the meter manufacturers. This provides them the opportunity to tamper with their meters without fear of being discovered because their meters cannot be located and subjected to on-site inspection.

Postal officials were concerned that some meter manufacturers' representatives are too quick to report meters lost or stolen rather than spend time tracking them down. The Postal Service has not attempted to sanction manufacturers who did not thoroughly search for missing meters.

Using Malfunctioning Meters

Revenue losses also occur when meters malfunction, i.e., they fail to lockout when the amount of available postage on the descending register has been depleted. These machines, commonly referred to as "jackpot" or "roll-over" meters, can reset themselves for the maximum amount of postage available on that particular series of meters—sometimes as much as $99,999.99. Meter manufacturers are not held responsible for any portion of revenue lost from improper meter use or meter malfunctions.

Some Fraud Cases Involved Large Revenue Losses and Went Undetected for Many Years

Some of the meter fraud cases investigated by the Inspection Service had large dollar amounts and went undetected for years. For example, 5 of the 132 closed cases involved dollar losses of over $1 million, with 1 case resulting in a loss of over $15 million. That case involved, among other things, a scheme to defraud the Postal Service by tampering with a Pitney Bowes postage meter to avoid payment for large amounts of metered mail. The scheme operated from 1979 to 1985 and involved a company that did high-volume mailings for a large city government and other businesses. The principal party in this scheme was sentenced to 13 years in prison and was ordered to pay $5.1 million in fines and restitutions.

Another case involved a scheme that went undetected for 17 years—from 1972 until 1989. A company that had rented 10 R-Line meters from Pitney Bowes hired a former Pitney Bowes employee to illegally reset the postage value on the meters. The former Pitney Bowes employee possessed meter resetting tools—a meter key and a pair of special pliers used to attach lead seals to postage meters—which are supposed to be under tight control. The estimated loss for the entire period could not be determined, but the

Inspection Service estimated that between 1984 and 1989, an estimated $3 million in postage was stolen. This case resulted in one individual being convicted, sentenced to 34 months in prison, and ordered to pay $1.6 million in restitution.

Another large dollar case involved a commercial parcel and retail mail establishment that reported some meters either lost or stolen and then used those meters—which had not really been lost or stolen—in conjunction with parts from legitimate meters to print postage that had not been purchased. From 1981 to 1986, this scheme deprived the Postal Service of an estimated $2.9 million. The principal party in this scheme was convicted of meter fraud.

An example of a case involving counterfeiting occurred in 1987. It involved the owner of a small business who used a stencil and duplicating machine to create counterfeit meter strips. The amount of revenue lost in this scheme could not be accurately determined by the Inspection Service because of the poor records maintained by the business. Nevertheless, it is an example of the type of meter fraud that postal officials believe may be increasing. This type of fraud can be extremely difficult to detect because of the ability of modern reproduction equipment to generate simulated meter marks that are almost indistinguishable from those produced by legitimate machines. The two principal parties in this scheme were convicted and sentenced to 3 years in prison (suspended) and were ordered to pay restitution totaling $12,500.

The Postal Service does not know the total amount of revenue it is losing to meter fraud. In September 1993, the Postmaster General told reporters that meter fraud could be costing the Postal Service $100 million or more per year. The Postmaster General disclosed that in January 1993 the Postal Service had learned from a whistleblower of another type of physical tampering that was not readily detectable. The Postal Service estimated that a mailer in one case involving the indiscernible tampering method avoided paying an estimated $5 million in postage over a 2-year period. In a similar indiscernible tampering case, the Postal Service estimated that another mailer avoided paying more than $600,000 in 6 months.

We did not find adequate data available to estimate total revenue losses.

Meter Controls Are Ineffective

The Postal Service has an ineffective system of controls for preventing and/or identifying fraudulent postage meter activities. Neither machine controls nor program controls are effectively serving their intended purposes.

Ineffective Control Devices Used in Meters

By not staying on top of and advancing improved meter technology, the Postal Service has allowed old meters with ineffective control devices to remain in use. This has contributed to the revenue losses resulting from meter fraud and puts the Postal Service at substantial risk of additional losses.

Historically, the Postal Service has been more concerned with meter durability than security. Little testing was being done to ensure meter security. The emphasis in approving meter models for use was on meter durability. For example, before a meter could be made available to the public, manufacturers were required to demonstrate that the meter was capable of printing indicia a minimum number of times under adverse environmental and electrical conditions without an error or breakdown.

Because the Postal Service has not taken a proactive role in promoting meter security, meter technology remains outdated. The mechanical components of meters have changed very little since they were first introduced. Even in the newer electronic meters, the mechanical portion is still basically the same as it was in the 1930s, i.e., an ascending register, a descending register, and a metal die that prints the indicia.

The ascending and descending registers were designed to provide a crosswalk between the amount of postage purchased and the amount of postage used. The ascending register keeps track of all postage printed by the meter. The descending register reflects the value of available prepaid postage left on the meter. When postage is purchased, meters with remote resetting capabilities are reset by the meter manufacturers, and meters without that capability are reset by postal clerks. As postage is used, the descending register falls to reflect each use. When the available postage is depleted a lockout mechanism makes the meter nonfunctional until additional postage is purchased. To date, substantial losses have been documented from cases where the machines were compromised by circumventing these registers and/or defeating the lockout mechanism. The Postal Service reports that about 636,000 (45 percent) of the 1.4 million meters in use are susceptible to losses from circumvention of these poor control devices.

In addition, an internal 1992 task force report on metered mail pointed out that the lead seals are no longer reliable control devices. The report stated the lead seals could be purchased commercially, and the Inspection Service has reported that it is possible to remove and replace lead seals without detection.

Further, there are only 5 different kinds of keys that access the 1.4 million meters currently in use. Possession of just the two Pitney Bowes keys would provide access to the internal mechanisms of 88 percent of the meters in use. Each of the remaining three manufacturers uses one key for all of their meters. Inspection Service officials also said that a significant portion of the 129,000 meter keys that have been issued are likely missing. For example, in an audit of 57 New England post offices, 36 were unable to account for 32 percent of the 285 keys they had been issued.

Ineffective Program Controls

Two of the Postal Service's important program controls have demonstrated weaknesses. The procedures for licensing meter lessees and verifying metered mail indicia are ineffective. In addition, the Postal Service does not have data that would be needed to (1) cross-check revenue collected with metered mail processed and (2) identify high-risk mailers.

Deficient Meter Licensing Controls

The current licensing application process allows a customer to obtain a meter license without any comprehensive verification of the information stated on the application. Additionally, existing licensing procedures do not provide detailed information about the mailers, their businesses, or their mailing practices, even though, as pointed out by the metered mail task force, granting a meter license is similar to granting a license for printing money. Also, producing meter indicia is done in the mailer's uncontrolled environment and without an audit trail.

The following scenario typifies how licenses are generally granted. A mailer approaches, or is approached by, a representative of one of the four meter manufactures. That representative often fills out the license application for the mailer and takes it to the post office, where a license is granted. Neither the Postal Service nor the meter manufacturers verify the information on the application. After the license is issued, the meter manufacturer furnishes the mailer with the equipment necessary to begin printing meter indicia.

If an individual is convicted of meter misuse, tampering, or fraud at one location and wants to set up another business in another city, the person can simply apply for a meter license at the new location. License application information is not exchanged between cities or post offices.

Quarterly Verifications of Metered Mail Indicia

The quarterly verifications of metered mail have not been effective in identifying fraudulent activity. This type of verification, which involves the physical inspection of a sampling of metered mail, is to be done on a quarterly basis.[6] This control is designed to detect meter fraud, including the use of lost and stolen meters and altered or counterfeit meter strips. However, Inspection Service officials said that this control has failed to identify any of the meter fraud cases known to date. The officials said that they initiated investigations after receiving information from informants—generally employees or former employees of the company perpetrating the fraud. The task force also reported that the quarterly verifications were flawed and were often not performed by Postal employees required to do them.

Along with these shortcomings, this verification procedure, in its present form, also has some inherent problems. For example, to identify the use of lost and stolen meters, the person taking the sample has to manually match the meter number appearing on the metered mail with a publication containing the serial numbers of lost and stolen meters. If done right, this is, at best, a long and tedious process. The serial number is a 7-digit number, and about 83,000 meters are missing. Even though the serial numbers are listed in ascending order, it is a cumbersome and potentially error-prone task to manually look up the meter number on each sample mail piece. This procedure is further complicated because the list of lost and stolen meters is not always accurate, and the meter numbers on a large percentage of the mail are illegible. Also, this procedure would not identify lost and stolen meters that were using indicia dies transported from legitimate meters.

The Postal Service does not maintain records that would provide accurate data on the number and type of meters that have been lost or stolen. Postal managers rely on data from the manufacturers on the number of lost or stolen meters—and those numbers are suspect. For example, during a review of postage meters in New York City, the Inspection Service found that some meters reported lost or stolen by manufacturers

[6]As noted earlier in this report, the Postal Service will be discontinuing its quarterly verifications of metered mail indicia.

were actually still in use at a new location and that postage was being purchased for those meters from the Postal Service. Postal officials are concerned that the reported number of lost and stolen meters may not be accurate because manufacturers are not adequately checking, as required by the Postal Service, to ensure that meters are actually lost or stolen rather than just being difficult to find. Many times, meter lessees relocate their businesses and postage meters without notifying the manufacturer.

The person inspecting the sample mail pieces is also required to make a visual inspection to identify counterfeit meter marks. According to Inspection Service officials this is usually impossible to do. According to the Inspection Service, in the vast majority of cases, a person cannot identify a fake from a legitimate meter strip. Lab analysis is required to make those determinations.

The quarterly verifications failed to detect even less sophisticated fraud schemes. For example, the owner and employees of two commercial parcel and retail mail establishments were using fraudulent meter strips for their outgoing mail. Their scheme involved printing a legitimate meter strip with $0.00 postage and photocopying another meter strip that had been previously produced with an amount such as $9.99. The legitimate strip and the photocopy would then be cut in half. They would then affix to the outgoing mail the half of the legitimate meter strip bearing the date and the half of the counterfeit meter strip bearing the amount of postage. This scheme went undetected until the owner bragged in a local bar about what he was doing. An informant then alerted Postal Inspectors to the scheme.

The overall lack of control over metered mail is widely known within the mailing community. For example, in May 1993 the Chief Postal Inspector asked several major mailer associations to help identify ways the Postal Service could be cheated out of revenue. The mailers identified meter fraud as one of the primary methods, pointing out several potential schemes.

Lack of Basic Meter-Related Data

The Postal Service cannot verify that the volume of metered mail processed for mailers was fully paid. Because the Postal Service cannot match revenue to volume on a systemwide or customer basis, it does not know how much revenue is being lost to fraudulent activities or where losses are occurring. The Postal Service cannot systematically verify that the postage revenue received from a mailer equals or exceeds the value of

appropriate postage for the volume of mail the mailer entered into the mail stream. Without this checking mechanism, the effectiveness of other controls in the system becomes more important.

In addition, Postal Service records do not show which mailers are third-party mailers. Third-party mailers prepare mailings for other businesses, and some have been involved in the more significant fraud cases. Because of the large volume of mail third-party mailers usually handle, the potential for unearned postage savings can be substantial. The Postal Service cannot closely track third-party mailers because the manufacturers have not provided the Postal Service with a list of those mailers. Meter manufacturers have reported to the Postal Service that about 4,000 meters are leased to third-party mailers, but the Postal Service does not have the names and locations of those mailers.

Management Has Recently Initiated Short-and Long-Term Program Improvements

Lack of management attention to the postage meter program contributed to fraudulent meter activities. Management was slow in responding to problems identified by the Inspection Service and failed to establish an appropriate structure with adequate staff to effectively oversee program operations. Management also failed to ensure that it had established the controls necessary to effectively operate the program in a way that minimized its risk to losses from fraudulent activities.

Recently, the Postal Service initiated numerous actions to deal with meter fraud. Leading this effort is a new management team, which was charged with developing an action plan to strengthen the controls in the meter program. Postal officials acknowledge that many of the changes needed will take years to develop and implement. They have developed a number of short- and long-term initiatives for improving the meter program.

Management Attention to Meter Fraud

In 1985, the Inspection Service began systematically documenting the results of its meter fraud investigations. By the end of 1989 it had completed about 60 meter fraud investigations and had reported to management that "the present system and procedures for controlling postage meters and metered mail revenue were not adequate or effective."

Subsequently, in 1990, the Inspection Service reviewed 24 of the largest mail processing facilities in the nation to determine the effectiveness of quarterly verifications. The Inspection Service found that only 11 facilities—less than half—were doing verifications, as prescribed. Another nine facilities were doing quarterly verifications some of the time. Four of the facilities were doing no quarterly verifications at all. The Inspection Service also reported qualitative problems with the verifications that were done—either the results were flawed, or no attention was given by management to the information obtained from the test. No meter violations had been detected as a result of the quarterly verifications that were done.

It is unclear why Postal Service management was slow to address the problems identified by the Inspection Service. Postal officials said they believed that top management, at the time, did not want to hurt service to its customers by tightening controls on meters and metered mail. The officials also said that management did not feel a sense of urgency to make changes in the program at that time because management believed the controls were cost effective given the few documented cases of meter fraud that involved significant losses.

Regardless, it was not until 1991 that postal management undertook an in-depth self-examination of the program. It appointed a task force to study the metered mail problem. The task force's findings, reported in 1992, concluded that the management of the meter business at Postal Service headquarters was significantly understaffed and lacked an appropriate structure for effective oversight and program direction. The report stated that metered mail management was one of the responsibilities of the Office Director of the Office of Classification and Rates Administration. The day-to-day management of the multibillion dollar metered mail business resided with just five staff members, all of whom had other responsibilities as well.

Reacting to this information, Postal Service management began taking steps to improve the management of the meter program. One of the first steps was creating a management action team in early 1993. The team comprised two groups: an oversight group of vice presidents and a working group of managers from functional areas, including customer service support; technology applications; finance; engineering, research, and development; general counsel; and the Inspection Service. The team's goal is to develop a plan that outlines short- and long-term steps for improving controls over the meter program.

Initiatives to Improve Controls

The management action team has developed a number of new initiatives to improve controls over the metered mail program. These initiatives are designed to improve various aspects of the meter program, such as meter technology, meter licensing procedures, and the identification of lost and stolen meters.

Meter Technology

A key initiative of the team, designed to improve the management of the meter program, is the Postal Service's assumption of a more proactive role in the development and evaluation of meter technology. To assist with this initiative, postal officials have contracted with the Computer Science School of Carnegie Mellon University. Among other things, Carnegie Mellon and the Postal Service plan to explore technologies for second-generation meters having the capability to produce electronically encrypted signals. The meters would change indicia as needed and print clearer indicia that could be read by machines employing new barcode technology. Reading indicia would be done on a sample basis. Postal officials believe these futuristic systems, which incorporate encryption

and new barcode technology, will have the potential to curtail the fraud that can be successfully committed within the existing system.

Carnegie Mellon is also developing performance criteria that the Postal Service can use to evaluate future metering systems as they are developed. In addition, Carnegie Mellon will be evaluating the security of all electronic meters previously authorized by the Postal Service. This will allow the Postal Service to determine if additional weaknesses exist in meters that need to be modified or if some additional meters should be decertified. Carnegie Mellon plans to complete this evaluation by September 1994.

Also, postal management is requiring that manufacturers modify the 636,000 meters that are most susceptible to indiscernible tampering. Postal management is also requiring that the manufacturers first concentrate on modifying those meters operated in high-risk environments—i.e., those located in third-party mailer operations. The effort to modify susceptible meters is already under way, but completion is expected to take about 4 to 5 years.

Pitney Bowes' plans for modifying its R-Line meters and two other series have been approved, and some of the meters have already been modified. Plans for modifying the other series of meters identified as being susceptible to indiscernible tampering have not yet been approved.

Ascom Hasler's preliminary plan for modifying its susceptible meters was not approved by the Postal Service. Ascom Hasler plans to submit a revised plan along with a modification prototype for testing in May 1994.

Additionally, on November 3, 1993, the Postal Service notified Pitney Bowes that its R-Line meters would no longer be certified for use after January 4, 1995. Post offices were informed that on that date, the Postal Service would no longer license R-Line meters, and mail with indicia from R-Line meters would not be accepted for delivery. Effective November 1, 1994, R-Line meters will no longer be reset with postage, and licensees will have until January 30, 1995, to transfer paid postage to an approved meter or seek a refund for any remaining postage on these meters.

Another key improvement initiative being developed by the Chief Financial Officer is a new Meter Accounting and Tracking System. Historically, keeping records of meter licenses and meter settings was the responsibility of the local postmasters. This system did not produce an

accurate information system for management's use in keeping track of meters. Under the new Meter Accounting and Tracking System, a computerized record of postage meters will be established with a national search capability. The system will be used not only to keep track of meters, but is also expected to eventually help the Postal Service reconcile, for each meter, the volume of mail imprinted and the amount of postage paid. Pilot testing for this system began in October 1993, with national deployment scheduled to be completed by December 1994.

The Postal Service is also considering imposing a number of administrative sanctions on meter manufacturers who fail to fully discharge their responsibilities or other administrative requirements, such as conducting periodic inspections and accounting for all meters—including those lost and stolen.

The Postal Service is now focusing more on meter security. It has contracted with Carnegie Mellon University to help in the technical evaluation of electronic meter security. In addition, test specifications for the design and manufacture of meters have been updated and now place greater emphasis on security. The Postal Service is even considering holding the manufacturers financially responsible, in part or whole, for meter designs that are susceptible to tampering and that result in lost revenue to the Postal Service.

Another security concern being addressed is the vulnerability of the seal and key mechanisms designed to keep individuals from breaking into meters. In April 1994, the Postal Service began testing a new polycarbonate seal that cannot, like lead seals, be easily removed without detection. These new seals provide additional security because they have a tab that contains a unique number, which will be recorded when the meter is set. At the next setting, the postal clerk will be able to determine if the number on the seal is intact and if it is the original seal that was issued. In addition to being more environmentally acceptable than the lead seal, the polycarbonate seal will also more noticeably show signs of tampering.

To address the large number of meter keys that are unaccounted for, the Postal Service is exploring new ways to secure postage meters without keys, such as an electronic personal identification number (PIN) access system.

Creating a new meter information and warning label was another step taken to help secure postage meters. This cautionary label provides the

meter user with basic rules on leasing, misusing, and moving meters and also informs the users of a $50,000 reward program.

The Postmaster General announced in September 1993 that the Postal Service is authorizing rewards of up to $50,000 for information leading to the arrest and conviction of anyone counterfeiting, forging, or altering postage meters or meter strips or using counterfeit or altered metered indicia to defraud the Postal Service. The toll-free phone number for reporting suspected fraud is 1-800-654-8896.

Meter Licensing Procedures

Proposed procedures would require that more detail be provided on the meter license application, and local post offices would be responsible for verifying the information. Additionally, the licenses would have to be renewed annually, thus providing the Postal Service with a yearly opportunity to review the qualifications of licensees and the use of the meters in their possession.

Identification of Lost and Stolen Meters

The Postal Service has been concerned that the meter manufacturers have not been working hard enough to track down lost or stolen meters. To correct this problem, the Postal Service first standardized the report that manufacturers send to the Postal Service when reporting the loss or theft of a meter. In the past, each manufacturer used a different, self-created form. Those forms contained differing, incomplete data and did not give the Postal Service adequate information to determine if sufficient effort had been made to track down missing meters.

Second, the Postal Service devised new, specific steps to be taken by the manufacturers to locate missing meters before submitting a lost or stolen report. For example, in the case of a stolen meter, a manufacturer's representative must report the theft to the police. In the case of a missing meter, the manufacturer's representative must take several steps to find the meter, including (1) calling telephone directory assistance to find out if the customer has moved to a new place of business and (2) visiting the customer's last known address to find out if the building superintendent or a neighbor knows the customer's whereabouts.

Once these steps have been completed, the manufacturer's representative must certify that required actions were taken to locate the meter, and company management must certify to the accuracy of the report. The

manufacturer must then submit the reports in an automated format to the Postal Service.

Upon receiving this information from the manufacturers, the Postal Service will produce, for its field units, computer disks of lost and stolen meter data that can be used on laptop computers. Postal officials believe this new technique, combined with newly developed sampling procedures for checking metered mail, will significantly strengthen the meter indicia verification process.

Additionally, to emphasize to manufacturers the importance of accurately reporting lost and stolen meters, the Postal Service is considering imposing financial sanctions when a manufacturer improperly reports or fails to report a meter as lost or stolen.

While all of these initiatives represent significant improvements to the meter program, in the long run, the effectiveness of the meter program will hinge on management's sustained attention to reducing the risk of meter fraud. This includes maintaining accountability for meter program operations, ensuring that the technology and security employed in meters are up-to-date, and working to bring all internal controls up to an acceptable level for preventing and/or identifying fraud. However, until such time as new technology is established to (1) read the indicia and match it to the meter that created it and (2) compare individual mailers' volumes against the postage they have paid, Postal Service efforts in spotting fraudulent metered mail can be only marginally effective.

Comments From the Postal Service

UNITED STATES POSTAL SERVICE

May 9, 1994

Mr. J. William Gadsby
Director, Government Business
Operations Issues
United States General Accounting Office
Washington, DC 20548-0001

Dear Mr. Gadsby:

Thank you for providing us an opportunity to comment on the draft report entitled, POSTAGE METERS: Risk of Significant Financial Loss But Controls Are Being Strengthened. We appreciate your acknowledgement of our efforts to analyze the situation and take significant actions to improve controls. As you note, our efforts deal with short-term, medium-term and long-range enhancements.

As the report notes, in past years there have been weaknesses in the administration and management of our postage meter program. In 1991, we established a metered mail program task force to assess the extent of the problem and present recommendations for needed changes. In 1992, the task force reported that the program needed more effective direction and ongoing management oversight, and early in 1993, we responded by setting up a team of vice presidents and senior managers. They are responsible for providing that oversight, for identifying problem areas and taking corrective action and, of crucial importance, for giving sustained management attention to the numerous initiatives currently being implemented. Since then, we have been vigorously pursuing a broad array of initiatives, both short-term and long-term, that we fully expect will significantly strengthen the program.

In broad terms, our meter program initiatives are geared toward making it more difficult for dishonest meter users to circumvent the program's administrative controls and toward making the fraudulent use of meters themselves, whether by tampering, counterfeiting, or using stolen meters, more certain of detection and prosecution. As with any effective control, management must balance the costs of the controls against possible benefits and detriments. Our efforts include both "prevent controls" (e.g. meter modifications) and "detect controls" (e.g. Inspection Service initiatives). We are striving for improved controls while hoping to minimize any additional burden on honest customers.

Once again, we appreciate the affirmation the report gives that the actions we have taken and are planning to take are on the right track. Clearly, some of our long-term plans will take time to develop and implement. But it is also clear that several of the actions we have recently taken, such as the new procedures for reporting lost or stolen meters, have already given us more control over postage meters than we previously had.

If you wish to discuss any of my comments, my staff is available at your convenience.

Best regards,

Marvin Runyon

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Washington DC 20260-0010
202-268-2500
Fax 202-268-4680

Comments From Pitney Bowes

Pitney Bowes

Vice President
Worldwide Postal Affairs

April 22, 1994

Mr. J. William Gadsby
Director, Government Business Operations Issues
General Accounting Office
441 G Street N.W.
Room 3858
Washington, DC 20548

Dear Mr. Gadsby:

On behalf of Pitney Bowes, I appreciate the opportunity to provide comments on the General Accounting Office's (GAO's) review of postage meter fraud.

Pitney Bowes has been in the postage meter business since its incorporation in 1920. Pitney Bowes not only invented the postage meter and created the markets, but throughout its 74-year history has been the consistent leader in the development and commercialization of postage meter technology and mailing products to the benefit of mailers and the Postal Service. No institution in the world, either private or public, has invested more in or has greater concern for the security, productivity and customer benefit of the metered mail system than Pitney Bowes.

Notwithstanding the hundreds of millions of dollars that Pitney Bowes has invested and continues to invest in technology, training and administration for a secure metered mail system, we recognize that no system is invulnerable to violation. However, the revenue security record of the metered mail system in the United States indicates that it is among the most secure revenue collection systems in existence. In 1993, the USPS collected more than $20 billion from mailers using postage meters. Even if one were to accept without question the cited $36 million estimate of postage meter losses over the last nine years, at $20 billion per year, this loss equates to less than 2/100ths of 1% (.0002) of total revenues collected through the metered mail system.

Pitney Bowes

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The GAO draft report, in evaluating the metered mail system and any associated fraud, has cited facts about the system without presenting important information necessary to provide proper perspective or context. In the absence of such critical context, the reader of the GAO's report will be presented with an inaccurate picture of the current metered mail system and any associated security issues. We have attached a summary of what we believe is the critical context that will allow readers to more fully and accurately understand the security and effectiveness of the U.S. metered mail system.

Some examples include:

- While the report states that 555,000 Pitney Bowes mechanical meters are vulnerable to tampering, the GAO fails to point out that approximately 75% of these meters are stand-alone devices rented by businesses whose meter output averages less than 20 letters per day -- an average of less than $6.00 per day in postage. Even the very few unscrupulous among this group lack the financial motive to compromise the system. The report fails to cite that of the 1.2 million Pitney Bowes postage meter customers, less than 2,700 fit the generally agreed-upon profile of a potentially "high risk" mailer. The meters used by this group have all been recently retrofitted in order to enhance security.

- While the report states that 83,000 postage meters are classified as "lost and stolen," the report fails to point out that this population is an accumulated total of more than 70 years of postage meter history. Only 3,025 (4%) of these meters can be characterized as high-risk meters, and 12,170 (15%) pose no risk at all because of design obsolescence. The majority of missing meters are low-risk, stand-alone meters which are not able to be used to process high volumes of mail. In addition, a significant proportion of these meters listed as missing are merely record discrepancies due to unprocessed paperwork or are meters that have been lost in fire, flood or earthquake and would therefore pose no threat of fraudulent usage.

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- The report inaccurately criticizes meter manufacturers for not bringing forward security enhancements due to a lack of incentive to increase security. Nothing could be further from the truth. Pitney Bowes has a critical business interest in both the perceived and actual security of the metered mail system. Pitney Bowes' record of security and other product enhancements bears evidence to this significant commitment.

The U.S. metered mail system is a three-party system with responsibility shared by the USPS, the meter manufacturers and those licensed to participate in the system. The metered mail system works most effectively and securely when all three parties work to fulfill their respective responsibilities. As noted in the GAO report, we are working with the other meter manufacturers and the USPS to identify opportunities to further improve the administration and regulation of the metered mail system. Pitney Bowes is also committed to continuing to invest in improving the security and productivity of postage meters. In the near future, this continuing investment in technology will yield advanced postal payment security features including encryption technology.

What follows in the attached addendum is a summary of information that we believe provides a more accurate perspective on the effectiveness and security of the metered mail system.

We did not reproduce the addendum.

Sincerely,

Henry J. Spring

Comments From Ascom Hasler

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

Ascom Hasler
Mailing Systems®

Michael A. Allocca
President and Chief Executive Officer

ascom *The new standard of excellence.*

April 18, 1994

J. William Gadsby
Director, Government Business Operations Issues
U.S. General Accounting Office
441 G St., N.W., Room 3858A
Washington D.C. 20548

Dear Mr. Gadsby:

See comment 1.

I have your letter of March 22, 1994 enclosing a copy of the GAO draft report entitled Postal Service: Millions of Dollars Lost to Postage Meter Fraud. I want to thank you for the opportunity to review the report and offer my comments.

The scourge of postage meter fraud has haunted our industry for many years. While the efforts devised by the USPS and meter manufacturers to prevent such fraud have, we believe, met with some success (the Postmaster General's estimate of $100 Million loss, while a very substantial and serious absolute figure, is less than 6 tenths of one percent of the $17 Billion volume of postage paid for through meters annually) they have plainly failed to eradicate the practice altogether.

As you have correctly pointed out, the USPS has launched a new offensive against meter fraud in recent years. Ascom Hasler Mailing Systems, Inc. is joining this attack with fervor; having proposed to retro-fit a substantial number of its mechanical meters at very considerable cost so as to prevent a recurrence of the known means of committing fraud against the system. We hope this action, coupled with an even more dedicated inspection policy will keep inventive criminals at bay for a sufficient time to arrive at a more permanent solution.

In our opinion, a permanent solution to meter fraud lies in a concerted effort on the part of the manufacturers to fabricate meters armed with state of the art fail safe security devices capable of defying even those mailers most dedicated to stealing free postage. Such technological advances, which appear, in theory, well within the reach of the present roster of meter manufacturers and suppliers of hardware and software, requires little more than sufficient R&D budgets and an

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environment where the resultant products can freely and profitably be made available to the market.

Unfortunately, such freedom and potential profitability are not part of the prevailing environment in the postage meter industry today. The result is a melange of outstanding postage meters, most using technology generations old, which not only fail to prevent meter fraud, but fail by far to provide customers and the USPS with the efficiencies in postage distribution they have a right to expect at this stage of the industry's maturity.

A principal cause of this condition, not mentioned in your draft report, is the extensive patent portfolio controlled by the company holding a virtual monopoly over the meter market, Pitney Bowes, (PB) and the reckless and illegal manner in which that company is permitted to assert those patents, effectively preventing any competition from introducing technological advances.

The motive is clear to all involved in the industry. By Postal Service regulation meters can only be rented rather than sold or leased with a nominal purchase option. Typically, these rental contacts are cancelable by the mailer on 90 days notice to the manufacturer. Accordingly, the risk of technological obsolescence of postage meters remains with the manufacturer rather than being passed onto the customer, as is the case when products can be sold. PB presently generates a cash flow of well over $500 million from the approximate 1.2 million postage meters it rents in the U.S. It would be economically self defeating if PB were to introduce technologically up-dated meters into the market causing a sizable number of customers to cancel their rental contracts on the old equipment they now use, the rental on which, with those old meters having already been fully depreciated by PB, largely falls directly to PB's bottom line.

Not only has PB consciously delayed the introduction of technology itself, but more insidiously, it is diligent in attempting to prevent the introduction of new technology by its much smaller competition. This is accomplished by an already easily identified pattern of behavior on PB's part beginning with assertions of patent infringement on the introduction of virtually any improvement in meter technology by third parties, including "infringement" of invalid and improperly obtained patents; followed by a demand for unconscionable license fees for the use of the "infringed" patents; followed by the threat,

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and, if not responded to by capitulation, the actual initiation of legal process against the "offending" competitor. Such behavior has been directed against each of the three small competitors in the meter market during the past ten years. The result is that rather than face the prospect of life draining legal defense costs the competition no longer can afford to carry on continuing research to improve U.S. meter products.

Sad evidence of this condition is found in the fact that today, Friden NeoPost, the inventor of the electronic postage meter, pays royalties to PB on each electronic meter Friden rents in the U.S.

You must understand therefore, that no amount of identification of technological passageways to a safe and secure meter, by Carnegie Mellon University or otherwise, will defeat meter fraud for the USPS and the nation until PB permits those passageways to be explored by the industry without threat of emasculating patent litigation, irresponsibly and sometimes illegally asserted, but which PB can afford well beyond the means of its competitors.

Ascom Hasler is PB's latest competitor to be unjustly accused of infringement of PB's patent "fence" and, to date, has spent close to two million dollars defending itself against such unfounded claims (and the discovery process in the suit has not even been completed). This is money far better spent on the research necessary to stamp out meter fraud.

To avoid such insupportable costs we strongly believe that the USPS should investigate PB's irresponsible use of its patent power and take disciplinary action against PB if warranted, all as part of its prime responsibility to regulate the Postal System of which the postage meter industry plays so important a part. The USPS plainly has the power to assume jurisdiction over these serious accusations against PB, and for over a year we have been importuning them to do so.

To date the USPS has not accepted such jurisdiction however, preferring that the issues be brought before other governmental agencies, such as the Justice Department and the FTC. We have steadfastly objected to this avoidance of primary responsibility by the USPS.

Recently, the USPS has convened a convention of all meter manufacturers to discuss changes in the Postal Regulations for the

See comment 2.

See comment 3.

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purpose, among other things, of abetting the fight against meter fraud. The matter of the USPS assuming jurisdiction over the charges we and other manufacturers are making against PB is being discussed anew at that convention, the next meeting of which is on May 13, 1994. We will keep you informed of the results. In the interim, we are attaching for your perusal a copy of the memorandum Ascom Hasler filed with the USPS in connection with the issues raised at the last meeting of the convention on February 24, 1994.

Except for your omission of the serious problem regarding use by PB of its patent "fence" to slow down technological advance in the market, we are essentially in agreement with the bulk of the observations contained in your draft report. However, we believe we should point out to you the inequity which would be involved if, as you observed was under consideration, regulations were ever passed forcing meter manufacturers to suffer a penalty for the meter fraud committed by unrelated third parties. Certainly, manufacturers should be held liable for any negligence or wilful act on their part causing damage to others. However, one must keep in mind that all postage meters are manufactured to the approval (certification) of the USPS. In our opinion it would be grossly unfair if a manufacturer were to satisfy the USPS' specifications yet later to be held liable for meter fraud losses resulting from the act of an uncontrolled third party.

We would be most pleased to meet at any time convenient to you to expand on the matters discussed in this letter.

Sincerely,

Michael A. Allocca

MAA/fj

Attachment

GAO Comments

1. A draft of the report provided to the postage meter manufacturers had a title that has subsequently been modified.

2. We did not reproduce the memorandum.

3. As noted in our report, the Postal Service is considering a number of administrative sanctions on meter manufacturers who fail to fully discharge their responsibilities in producing secure meters. We did not evaluate the merits of those sanctions being considered because that was not in the scope of our review.

Comments From Postalia, Inc.

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

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April 24, 1994

Mr. J. William Gadsby By Fax: (202) 268-4969
Director, Government Business Operations Issues
U.S. General Accounting Office
441 G St., N.W., Room 3858A
Washington, D.C. 20548

Dear Mr. Gadsby.

See comment 1.

We have received the draft report entitled "Postal Service: Millions of Dollars Lost to Postage Meter Fraud".

Francotyp-Postalia commends the thorough job undertaken by the GAO and we welcome the opportunity to provide comments. While the Postal Service does not (and should not) provide specific details regarding postage meter fraud we believe that all manufacturers are well versed and concerned with the issue.

Our views are based on the GAO report as well as our current knowledge of Postal Operations and our more than thirty year history of supporting the American Mailing Public.

1. To the best of our knowledge, not one Postalia meter has ever been involved in a case of fraud. Obviously this could change tomorrow and we support the recent USPS initiatives designed to improve the overall security of the metered mail system.

See comment 2.

2. We believe that the GAO would have received a somewhat different view of postage meter fraud and additional countermeasures had the time been taken to interview all four manufacturers and not just Pitney Bowes. The fact that the U.S. Government, and until recently, the Postal Service has focused attention on a single manufacturer that virtually monopolizes the industry has, to a large extent, contributed to the a postage meter security system that is less capable than available off the shelf technology can provide.

3. In the postage meter industry there is a well known practice where one company has improperly used patents not just to restrict competition, but also to prevent competitors from bringing more modern and secure systems to the market. Specifically we are referring to the practices of Pitney Bowes where patents are issued but never used to prevent competitive innovation or where patent claims are so broad (using a microprocessor or I.C. memory in a postage meter, for example) that no company can develop a product without risking infringement or economically unjustifiable licence fees.

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Francotyp-Postalia recommends that the GAO check into the results of the subpoena issued by the Inspection Service of the USPS last December which raised the question of patents being used in such a way as to restrict technology that would provide more secure meters to the American market. We have not (and do not expect) to see the results, but we believe that the conclusion is obvious. Further, we recommend that the GAO survey the level of technology related to postage meter security that is currently available in the European market where patent practices are less restrictive. We believe that until this fundamental issue is addressed by the Postal Service that there is little hope of significantly improving the current situation. New administrative controls by themselves simply create a costly overhead that will be passed onto all mailers. Ultimate security rests in the appropriate use of electronics and software in both postage meters and the manufacturers data centers that provide postage refills via telephone.

See comment 3.

4. Francotyp-Postalia strongly recommends that the final GAO report be modified to delete specific references to how meter fraud is actually accomplished. We believe that this could serve as a "roadmap" to those who would defraud the Postal Service. At a minimum this subject should be treated as a confidential addendum that is not published with the report.

5. We share the concern of the GAO and the USPS regarding lost and stolen meters as they represent both a security risk and a loss of our assets. We also believe that there are cases where lost and stolen meters are refilled at Postal windows simply due to lack of training on the part of Postal employees.

See comment 4.

6. It is our belief that the profile of mailers likely to attempt fraud is indeed known to the Postal Service contrary to what was stated in the draft report. Simply shifting financial responsibility to the meter manufacturers does not fully solve the problem. It is quite likely, given a scenario involving financial penalties, that manufacturers may choose simply not to rent meters to certain types of mailers. Further since most cases of fraud are believed to originate with third party mailers, we believe that there is a simple sampling technique that can be used to quickly spot fraud. Since virtually all third party mailers are producing presorted mailings to qualify for Postal discounts, one must only do a rough weight calculation and compare to the stated postage paid on the 3602 mailing statement and the amount of postage that has actually been collected by the licencing Post Office. This technique can quickly identify suspicious mailers.

7. Francotyp-Postalia commends the action of the USPS to decertify the "R-Line" meter. However we believe that this action should have been taken years ago since it is widely known in the industry

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that these meters were susceptible to fraud.
The argument that "the meters could not be decertified immediately because of the time and money required for customers to convert to another metering system" has no merit, since the manufacturer in question will routinely give postage meters away at no charge for up to one year in order to replace a competitor's machine. Thus we have a fairly clear statement that gaining more market share, even to a company that has 86% of the market, is more important than responding to postage meter security issues.

8. From our perspective, we have seen more activity from the USPS regarding meter fraud and the security of new systems during the last 12 months than we have seen for quite some time. It has been made clear to all manufacturers that security and revenue protection is a priority issue that is being taken quite seriously. We believe that this stems not only from new senior management but also from a number of middle managers at Postal Service Headquarters who are taking a new look at the status quo. Francotyp-Postalia supports these initiatives. At the same time we believe that the USPS field organization remains the key element in the consistent application of Postal regulations and security policies.

If you or your staff have additional question on the subject of postage meter security we would be happy to meet with you at your convenience.

Sincerely,

Postalia Inc.
George G. Gelfer
President

GAO Comments

1. A draft of the report provided to the postage meter manufacturers had a title that has subsequently been modified.

2. During our review, we offered to meet with the two manufacturers who produce meters that have been designated by the Postal Service to be vulnerable to indiscernible tampering. Pitney Bowes accepted our invitation and met with us early in 1994.

3. We agree that publishing specific procedures for perpetrating meter fraud would not be desirable, and we were careful to avoid disclosing information on precisely how meter tampering and counterfeiting is most often done. We believe it is important, however, to describe the types of criminal activities that pose risks of significant loss so that the issues can be fully understood.

4. The Postal Service is aware of the profile of high-risk mailers. However, as stated in our report, the Postal Service does not maintain a list of the names and locations of those mailers. Concerning the suggested sampling technique, the ability to match mail and revenue would be desirable. However, checking the revenue collected for metered mail represented on a mailing statement usually could not be done under current procedures because purchases of meter postage often do not coincide with mailings. Typically, purchases of postage through meter resettings cover more than one mailing, and a mailing may involve meter imprints from more than one meter. As stated in the report, we believe a better long-term solution is to match revenue with volume on a systemwide and customer-by-customer basis.

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