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BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

POSTAL RATE AND FEE CHANGES, 2000

Docket No. R2000-1

DIRECT TESTIMONY OF JOE LUBENOW
ON BEHALF OF THE ASSOCIATION FOR POSTAL COMMERCE
AND
MAIL ADVERTISING SERVICE ASSOCIATION

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AUTOBIOGRAPHICAL SKETCH

My name is Joe Lubenow. I am Vice President of Postal Affairs for Experian, a information services company headquartered in Orange, CA, which is a subsidiary of The Great Universal Stores, P.L.C. (GUS) of Nottingham in the United Kingdom. Since 1995, I held a similar position at Metromail, which was at that time part of R. R. Donnelley and Sons, later an independent company, and was purchased by GUS in 1998.

During the last fifteen years, I have been involved in pioneering the use by the mailing industry of each of the major USPS licensed address quality tools. These include the National Change of Address (NCOA) in 1986, Delivery Sequence File (DSF) in 1991, Locatable Address Conversion System (LACS) in 1994, and Address Element Correction (AEC) in 1996. Experian is currently the only company offering all of these USPS licensed services to its customers. In addition, my involvement has encompassed the use of proprietary name and address files as an adjunct to improving address hygiene.

I was elected in 1998 as industry vice-chair of the Mailers Technical Advisory Committee (MTAC) and will chair that body in 2001-2002. I am industry chair of the Universal Postal Union (UPU) Direct Mail Advisory Board's task force on Address Management. Also, since 1997, I have chaired the Addressing/Distribution Committee of the Graphic Communications Association (GCA). Currently, I lead the GCA Address Data Interchange Specification (ADIS) project which aims at developing a unified address format for international use.

In Docket No. MC95-1, I testified on behalf of the USPS regarding its addressing proposals with respect to classification reform.

I have a Bachelors Degree from Lawrence University and a Masters Degree in Philosophy from the University of Chicago.

1 **I. PURPOSE AND SCOPE OF TESTIMONY**

2 The effect of the USPS rate case proposals is to undermine two of the three pillars of the
3 concept of work sharing that has helped the USPS to restrain costs and increase productivity over
4 the last two decades. Work sharing discounts are earned from density of mailings, from mailer
5 participation in postal automation, and from drop shipping to enter mail closer to its destination.
6 Address quality is a prerequisite for automation discounts and for the carrier route discounts that
7 occupy the top layers of the pyramid of density discounts.

8

9 The current rate case proposal has the following effects:

10 It reduces the automation discounts.

11 It reduces carrier route presorting discounts in many cases.

12 It increases the basic rates less than it increases the rates that include more work sharing.

13 It reduces the incentives for address quality, defined in terms of relative sizes of the discounts.

14

15 The goals of this testimony are as follows:

16 To document the effects listed above.

17 To describe the address quality cost curve for mailers.

18 To examine some ways in which defective address quality increases USPS costs.

19 To provide specific recommendations on how the negative consequences above can be
20 circumvented in this rate case and avoided in future rate designs.

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II. WORK SHARING DISCOUNTS AND ADDRESS QUALITY

GENERAL CONSIDERATIONS

The USPS admits that if the universe of automation mail is compared to the universe of nonautomation mail, the cost savings are greater than just the direct savings in operations from mailer prebarcoding that the USPS identifies. In its testimony in this rate case and previous cases, it argues that isolating the direct and immediate operational savings from mailer prebarcoding is the proper basis for determining barcoding discounts. Further, it claims that many of the benefits of the “clean” mail streams of business mailers are only contingently related to prebarcoding, and should not be taken into account in compensating mailers for this worksharing activity.

However, the significance of mailer prebarcoding is more than just applying a barcode to a mailpiece. The issue is not just a matter of whether the mailer or the USPS adds an automatic identification capability to the mailpiece that enables it to be sorted into one output bin rather than another. If that was all there was to it, indeed the USPS could claim that adding Optical Character Recognition (OCR) capability to barcode sorters lessened the need for and the value of mailer prebarcoding.

On the contrary, discounts are only available for barcodes determined by certified processes, based on matching addresses with few or no deficiencies to postal databases. This is an essential rather than a contingent relationship, since with deficient address data, not enough significant digits can be generated, and below a certain threshold of significance, no barcode discount can be claimed. Not only is the mailer unable to qualify for the discount, but as a general rule, when the address quality is deficient, the USPS will also be unable to do that which the mailer has been unable to do.

The consequences of poor address hygiene are strongly negative for all parties. Poor address hygiene has a number of causes and can be improved through a number of remedies, requiring the combined efforts of mailers and the USPS. But at the end of the day, once the mailpiece has been tendered to the USPS without complete and correct address information, additional costs are unavoidable. Our contention is that the issue of mailer prebarcoding should not, and indeed cannot, be separated from the issue of address quality.

1 It could be argued that mailers ought to take all reasonable measures to provide complete
2 and correct addresses to maximize the prospects of prompt and accurate delivery even without
3 the additional incentives of barcoding discounts. The record shows that mailers have been
4 motivated by regulations, by educational efforts, and by their own experiences to move only part
5 of the way up the “address quality cost curve” that this testimony will describe. This leaves the
6 industry and the Postal Service several crucial percentage points, or billions of mailpieces, short
7 of what is possible with existing address technology.

8 By constraining the value of prebarcoding narrowly, as an almost superfluous activity on
9 the part of mailers to do something which the USPS can just as well do by itself, the USPS has
10 overlooked a fundamental point: the information value of the barcode depends upon the extent to
11 which the underlying address hygiene disciplines have been rigorously pursued. It would be
12 difficult for the USPS to systematically account for the myriad wasteful activities engendered by
13 defective addresses found on mailpieces that of necessity are concentrated in the rate categories
14 which reflect the least work sharing. But if this is not done, barcoding and carrier route
15 discounts will necessarily be set too low to provide mailers with sufficient incentives to pursue
16 advanced address quality, to the detriment of all parties.

17 18 ADDRESS QUALITY INCENTIVES

19 The methodology used by the Postal Service to determine rates for each presort category
20 does not directly take into account the impact of the relationships between the rates on the
21 incentives for address quality. Mailpieces can only be eligible for carrier route or automation
22 rates if the address is sufficiently complete and correct to allow a match to USPS databases using
23 certified software. Matching rates around 95% are quite typical. Although getting a carrier route
24 discount requires presort density, mailpieces eligible for automation rates must only meet bulk
25 mailing minimum quantities. Therefore, for mailing jobs including an automation component,
26 the percentage of pieces that fall to regular rates will generally be in single digits. Included in
27 this category will be all the pieces with addresses deficient to a degree that prevents matching.

28 To illustrate the incentives for address quality, we compare the basic carrier route rates
29 and 5-digit automation rates to the basic nonautomation rates. The point is not just to show the
30 absolute difference in these rates, but instead to show whether these differences will increase or
31 decrease under the USPS proposal.

	Basic	5-Digit	Difference	Carrier	Difference
	Non-Auto	Auto		Route	
5	Standard Letters				
6	Current	23.5	16.0	7.5	16.2 7.3
7	Proposed	24.2	17.2	7.0	17.5 6.7
8	Incentive Difference			-0.5 (-6.7%)	-0.6 (-8.2%)
9					
10	Standard Flats				
11	Current	30.4	20.3	10.1	16.2 14.2
12	Proposed	31.1	23.1	8.0	17.5 13.6
13	Incentive Difference			-2.1 (-20.8%)	-0.6 (-4.2%)
14					
15	Standard Nonprofit Letters				
16	Current	16.9	9.3	7.6	9.9 7.0
17	Proposed	15.9	10.1	5.8	11.3 4.6
18	Incentive Difference			-1.6 (-23.7%)	-2.4 (-34.3%)
19					
20	Standard Nonprofit Flats				
21	Current	23.3	14.4	8.9	9.9 13.4
22	Proposed	21.9	15.8	6.1	11.3 10.6
23	Incentive Difference			-2.8 (-31.5%)	-2.8 (-20.9%)
24					
25	Outside-County Periodicals Flats				
26	Current	29.4	16.8	12.6	12.2 17.2
27	Proposed	31.8	19.4	12.4	14.1 17.7
28	Incentive Difference			-0.2 (-1.6%)	+0.5 (+2.9%)
29					

30 These comparisons show that the USPS rate case proposal would significantly decrease address
31 quality incentives for Standard Mail, while leaving them more or less unchanged for Periodicals.
32 For a number of years, we have published these comparisons in guides to postal rate cases that
33 have been circulated widely to customers and in the industry. In this rate case, unfortunately,
34 customers seeking advice on rate case "signals" can see for themselves that investments in
35 advanced address hygiene are either not being encouraged or are actually being discouraged by

1 the USPS. We can only imagine that this is an unintended side effect of the narrow basis on
2 which the USPS seeks to determine the worksharing discounts. In our view, the USPS rate
3 proposals do not promote the best interests of the Postal Service itself. Rather than decrease the
4 incentives for address quality, or even leave them unchanged, there should be encouragement for
5 more rigorous efforts by mailers to provide complete and correct postal addresses.

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III. COSTS TO MAILERS OF IMPROVING ADDRESS QUALITY

CARRIER ROUTE CODES, ZIP+4 CODES, AND DELIVERY POINT BAR CODES

As a preliminary to this discussion, it may be helpful to explain some of the prerequisites for certain postal discounts.

Carrier route codes most typically denote by number which mail carrier will deliver a mailpiece, though the term also encompasses sections of post office boxes and other similar processing concepts that subdivide a five-digit ZIP code. They are a prerequisite for carrier route discounts, though in all cases such discounts involve a density requirement, namely that some minimum number of pieces be presented at the same time. Therefore, without sufficient density, the mailer may have the carrier route code for the address, but not qualify for any discounts from the basic bulk rates. In some cases, walk sequencing or line of travel information is also required to obtain carrier route discounts. Since the USPS reorganizes carrier routes from time to time, carrier route codes must be updated within 90 days prior to the mailing date. Rather than keep track of the expiration date for the carrier route codes on an address by address basis, mailers generally update carrier route codes on an entire file prior to each mailing.

ZIP+4 codes are a prerequisite for automation discounts for flats. To obtain such discounts, mailers are not subject to density requirements, other than the minimum quantities to qualify for bulk mailing. Therefore in most cases, once the ZIP+4 code has been found, the mailer can expect to qualify for some automation rate, presuming the mailpiece is eligible, even though density is still a factor in determining the size of the discount. Unlike carrier route codes, there can be several valid ZIP+4 codes for a given address. For example, in a high-rise building, there could be a ZIP+4 code reflecting knowledge of the apartment or suite number, a second that could be obtained based upon a firm name, and a third that is based only on the building address. Any of these is sufficient to obtain an automation discount. Generally, ZIP+4 codes must have been updated within 180 days prior to the mailing date.

Delivery Point Bar Codes (DPBC Codes) are composed of ZIP+4 codes with two additional digits that may represent part of a primary house number, box number, apartment or suite number, so as to enable postal equipment to place the mail in close approximation to carrier walk sequence. DPBC codes are a prerequisite for letter automation rates. To obtain these discounts, mailers must meet minimum quantities for bulk mail, and then based on density, may qualify for deeper discounts. Nevertheless, once

1 the DPBC has been found, the mailer can expect to qualify for some automation rate, presuming the
2 mailpiece is eligible.

3 4 CODING ACCURACY SUPPORT SYSTEM (CASS) AND CASS CERTIFIED SOFTWARE

5 The Coding Accuracy Support System (CASS) is used by the USPS to ensure the accuracy of the
6 above coding processes. The software vendor normally obtains this certification by passing complex tests
7 provided by the USPS on an annual basis, and then issues periodic database updates to users during the
8 year so that changes and new additions can be reflected in the results of coding. Although this process
9 results in a high degree of coding accuracy, it is not perfect. For example, 98% accuracy on the test file
10 may be needed for certification, but two software packages may achieve this threshold despite differing on
11 a few of the test addresses. In actual practice, there may be as much as 1% difference in the coding
12 obtained from CASS certified software packages, though this number has gradually declined as the testing
13 has become more sophisticated. Nevertheless, it is a common practice for direct marketing services
14 companies to offer enhanced coding rates based on the use of multiple CASS certified coding packages.
15 In a file of one million addresses, if there is a "lift" of 1% from this practice, it means that 10,000
16 additional pieces would qualify for automation or carrier route discounts. This is not harmful, since the
17 additional codes obtained will generally withstand scrutiny. Instances of "collisions", in which two CASS
18 certified packages obtain different carrier route codes or ZIP+4 codes, are increasingly rare. More likely,
19 if there is a difference, one CASS certified package will return a carrier route code when another does not,
20 or return a ZIP+4 code when another can only return a five-digit ZIP code.

21 Why does this happen at all? One reason has to do with the overlap of databases. When a new
22 database is released, there is a period during which both the old and new database can legitimately be
23 used, and this can lead to discrepancies. A second reason has to do with matching the database. If a street
24 name, for example, is spelled almost correctly, one package may accept the match, another decline. But
25 the most common reason has to do with the "parsing" of data, or the decision as to which element in an
26 address line is to be compared to which element in the database. There are many addresses that have
27 some ambiguity that can lead to parsing differences. "North" can be a directional or a street name, for
28 example, and "Circle" can be a street name or a street type. If "108-A" is encountered, it could be a
29 primary number, an apartment number, or a combination of a primary number and an apartment number.
30 Some addresses have extraneous words in them. These words may match elements in the database, while
31 perhaps interfering with the effort to make the correct match.

1 The CASS certified software described above utilizes a ZIP+4 level database which is widely
2 available and is incorporated in the databases provided by the vendors to their users. It is based on
3 “range” data, which means that, for example, a ZIP+4 code is assigned to a range of addresses, such as all
4 the odd numbers between 101 and 199 on North Main Street in a certain five-digit ZIP code. This means
5 that if an address such as “179 N Main Street” is submitted, it is within the range, and the carrier route and
6 ZIP+4 codes will be returned. This will be the case, even though there may not actually be a dwelling unit
7 with that number. The database is organized in this way to save space and to make the matching process
8 efficient, while taking advantage of the fact that all the houses on one side of a residential block generally
9 share the same ZIP+4 code. The address “179 N Main Street” may be deliverable, for example, if it is just
10 an error in keying “177 N Main Street” which does exist. On the other hand, it may be undeliverable,
11 notwithstanding the fact that it qualifies for carrier route and automation discounts.

12

13 DELIVERY SEQUENCE FILE

14 The USPS Delivery Sequence File (DSF) database contains over 135 million records
15 including addresses for every delivery point within the Postal Service delivery system. DSF is
16 delivery-point specific, listing each actually existing house number within a range, while the
17 ZIP+4 file is a set of address ranges. Each delivery point defined within the DSF is standardized
18 to USPS specifications and includes carrier route and ZIP+4 codes as well as additional useful
19 information such as dwelling type, seasonal occupancy and vacancy indicators, and an address
20 type indicator. The DSF can not be used to append apartment numbers or to provide missing
21 addresses for a specific carrier route.

22 DSF processing is only available through licensees. The USPS requires the licensees to
23 maintain a high level of security so that this database is protected from misuse. The licensees as
24 a rule offer DSF matching as a value-added service at an additional charge. Most commonly, the
25 DSF is used to obtain detailed footnotes as part of an address quality improvement project. It is
26 also one of several methods that can be used to place mailings in true walk sequence to qualify
27 for discounts depending on high density or saturation quantities that exceed basic carrier route
28 discounts.

29 In some cases, the DSF can resolve address ambiguities that cannot be resolved by lesser
30 tools. For example, the DSF could confirm that “179 N Main St” does not exist, which could
31 cause the mailer to avoid mailing to that address, or to seek a correction in various ways.

1 In other cases, the DSF can allow for coding an address that otherwise could not be
2 coded. For example, given an incomplete address such as “104 Main St”, if there is a range for
3 “100-198 N Main St” and also for “100-198 S Main St”, the basic CASS certified software
4 packages are not allowed to make a guess between two equally likely alternatives. But the DSF
5 might contain the information that while there is no delivery point at “104 S Main St”, there is a
6 delivery point at “104 N Main St”. In this case the inference is allowed that “104 Main St” most
7 likely refers to “104 N Main St”, and the address is coded.

8 Because of the limited availability of the DSF, many mailers use only basic CASS
9 certified software to qualify for discounts. Even among customers of the DSF licensees, many
10 rely primarily or exclusively on basic CASS certified software, rather than electing to go through
11 an additional process of matching to the larger database. This situation may change in the future,
12 but for now it is an unfortunate fact that the most comprehensive database the USPS offers,
13 which provides the best address quality diagnostics, is relatively underutilized.

14 15 PROPRIETARY ADDRESS FILES

16 In recent years, direct marketing service companies with access to national consumer
17 databases that include names as well as addresses have learned that certain otherwise recalcitrant
18 addresses can be resolved by use of name based tie breaking procedures. For example, if all we
19 have is “John Jones” at “101 Peachtree”, there may be a number of possible resolutions,
20 involving directionals such as “N” or “S” and street types such as “Street”, “Lane” and “Court”.
21 If there are multiple address elements missing, and if even the DSF contains more than one
22 alternative resolution, the address cannot on that basis be coded unambiguously. However, if we
23 have external knowledge of a “John Jones” at “101 S Peachtree Lane”, then the reasonable
24 inference may be made that this is the same “John Jones”. If we then enhance the address before
25 using the CASS certified software, the address will be coded and qualify for discounts.

26 27 ADDRESS ELEMENT CORRECTION

28 The Address Element Correction (AEC) system was introduced by the Postal Service in
29 early 1994 and corrects incomplete or inaccurate domestic and Puerto Rico addresses. The
30 service is offered by the USPS directly and through licensees.

1 Address resolution rates consistently average between 30 - 50% of the non-coded input
2 received. The core AEC service focuses only on those addresses that cannot be ZIP+4 coded
3 using CASS certified coding software. The system makes no reference to personal name
4 information. However, it is able to manipulate and enhance commercial business names and
5 addresses, government addresses, and those of educational institutions. The primary objective of
6 the AEC system is to test and transform address elements to produce a valid ZIP+4 coded record.

7 AEC has the capacity to present over 160 different element tests per address in order to
8 try and resolve inconsistencies. These tests can include rearranging address elements, combining
9 or separating elements, and generating variations of addresses that might compensate for known
10 causes of errors. For example, "123A Main Street" might not be codable, but rearranging it to
11 "123 Main Street Apt A" might produce a match.

12 The AEC system requires users to be sophisticated and willing to evaluate the output to
13 decide if it meets the appropriate acceptance criteria. For example, the address returned may
14 have diverged sufficiently from the input address that there is a chance that it is a valid address
15 belonging to someone other than the original customer. For a Periodicals publisher, the
16 acceptance criteria may need to be conservative.

17 18 NATIONAL CHANGE OF ADDRESS

19 The USPS National Change of Address (NCOA) program permits licensees to provide
20 updated addresses for customers and subscribers. The result is standardized and deliverable
21 addresses, suitable for mailings and internal database updates. The NCOA file is a database of
22 more than 115 million permanent address changes, updated weekly and covering a rolling 36-
23 month period of move information. NCOA identifies moves at the individual, family and
24 business level. The NCOA file also links multiple moves of the same family or individual over
25 the 36-month time frame. This allows mailers to stay in touch with individuals, families and
26 businesses who have filed multiple change of address notices with the USPS over this period,
27 thus ensuring prompt receipt of mail. In order to maintain the highest confidence levels for
28 NCOA processing, strict postal matching requirements are specified.

29 When a change of address form is completed and submitted to the USPS for processing,
30 the information is transmitted nightly to the National Customer Support facility in Memphis,

1 Tennessee. The information is processed and made available to the COA licensees for the most
2 current weekly update schedule.

3 All NCOA input addresses are standardized to USPS deliverability specifications.
4 Whether the mailer chooses to use standardized address information provided via the NCOA
5 process is optional. Therefore, the mailer is returned the original input data along with the
6 standardized data when a match is made to the USPS ZIP+4 file.

7 The average annual mobility rate in the United States has been estimated at 18%.
8 According to studies by the United States Postal Service, an estimated 84% of the address
9 changes on the NCOA file include forwarding address information. Another 16% do not provide
10 a forwarding address. Many of the change of address records that result from the postal
11 customer moving out and leaving no forwarding address are supplied by the Postal Service letter
12 carrier.

13 The NCOA NIXIE Elimination System (NES) will identify close matches on a mail file
14 when the name and address information presented could not match closely enough to meet the
15 USPS threshold for sharing the actual change of address. NES provides the mailer with reason
16 codes indicating why a match could not be achieved.

17

18 LOCATABLE ADDRESS CONVERSION SYSTEM

19 An address conversion is quite different from an address change. With a conversion, no
20 move has taken place. Rather, an address has been altered, i.e. the name of the delivery point has
21 changed. A majority of these changes are rural addresses that are being converted to street style
22 addresses (e.g., RR 1 BOX 123 becomes 1234 S APPLE BLOSSOM LANE). The Locatable
23 Address Conversion System (LACS) is a database maintained by the USPS of four million
24 addresses that have been converted from an old, usually rural-style format to a new, usually city-
25 style format. Grid type (600N 435 W) and combination addresses (16500 W N700) are also
26 quite common formats. This type of conversion activity is initiated and implemented at the
27 local, municipal or county level, and the address conversions are then given to the local Post
28 Office. When gathered, the USPS compiles the converted address information into a database
29 that is the basis for LACS. There are also cases in which the local government chooses to rename
30 or renumber streets. These types of conversions are also available on the LACS database. All of
31 this additional information significantly improves the accuracy of delivery.

1 LACS is available through most NCOA licensees as an additional option. To offer the
2 service, the licensees must have qualified through testing that is separate from the NCOA
3 process itself.

4 5 SERVICE ENDORSEMENTS

6 Due to the strict matching logic required to ensure the quality of the NCOA database,
7 there is still a significant portion of address changes that are not identified through these
8 computerized systems. As a result, the use of ancillary Service Endorsements by mailers on a
9 periodic basis is widely recommended.

10 Service Endorsements are mail piece endorsements which prompt the letter carrier to
11 specific actions, including providing changes of address after the fact. This provides for
12 improved delivery on future mailings, whereas NCOA updates move information prior to a
13 mailing event. Address change information can be returned either manually (currently at 50
14 cents per return and proposed to increase to 60 cents) or electronically (through Address Change
15 Service at 20 cents per return). There are four endorsements available for most classes of mail,
16 though Periodicals can only use one of the four:

- 17
- 18 • **Change Service Requested:** Provides address change information or reason for non-
19 delivery. Mail piece is not returned.
 - 20 • **Address Service Requested:** Address change information is provided, mail piece is
21 forwarded, unless a time limit has expired, and undeliverables are returned. Allowed for
22 Periodicals.
 - 23 • **Forwarding Service Requested:** Mail piece is forwarded, unless a time limit has expired, in
24 which case piece is returned with new address.
 - 25 • **Return Service Requested:** Mail piece is returned with address change information
26 provided, if address change detail on file.

27 28 APARTMENT AND SUITE NUMBERS

29 Apartment and suite numbers, particularly for high rise buildings, are very helpful in
30 increasing the efficiency of postal mail sorting, both automated and manual, and in ensuring
31 prompt and accurate delivery. Nonetheless, mailing files vary widely in the extent to which they

1 include the appropriate apartment and suite numbers. Some recipients choose not to disclose
2 their apartment numbers for a variety of reasons, including considerations of privacy and
3 prestige. Others do so selectively. With suite numbers, privacy concerns are less important,
4 though prestige still plays a role. Further, the sources of address information for compiled
5 mailing lists, which often are part of the ancestry of individual addresses in a mailing file, due to
6 successful attempts at prospecting and solicitation, may not include all the relevant detail. As a
7 result, mailing files vary widely in the extent to which apartment and suite numbers are present.
8 USPS systems and programs such as the DSF and the National Deliverability Index (NDI) which
9 is provided as an output of NCOA processing provide ways to measure this factor. Experience
10 shows that the presence of apartment and suite numbers often ranges from 20% to 80% of what
11 is needed for a complete and correct address file. However, there is at present no single method
12 available, either from the USPS or from industry, by which all or most of the missing apartment
13 numbers can be added. This means that there continues to be a twofold problem concerning the
14 presence in mailing files of apartment and suite numbers. The first pertains to distribution,
15 namely that some are found on some lists but not others, and the second pertains to the lack of
16 availability at all of other apartment and suite numbers. Later we will discuss some implications
17 of this persistent deficiency.

18

19 THE ADDRESS QUALITY COST CURVE FOR THE MAILER

20 All mailers encounter certain well known costs in preparing a mailing. These generally
21 include mailpiece design, printing, and processing costs. For bulk mailings prepared in advance
22 on a computer, processing costs can be incurred for deduplication of lists, CASS certified coding,
23 presorting, and preparation of labels or ink jet tapes. Though prices for these services vary based
24 on quantities and contractual arrangements, for purposes of this discussion, these are fixed costs.

25 The variable costs of address quality are the result of efforts by the mailer to drive the
26 coding rates higher while trying to ensure that the recipient is actually at the intended mailing
27 address. For each additional process used, what is involved is generally passing the file against a
28 data base while performing certain computer tests. Most of the additional processes discussed
29 above require separate file passes, and most are charged at a rate per thousand addresses that
30 varies from as low as \$0.25 to as high as \$4.00. CASS certified coding using multiple software
31 systems is an exception to this, in that as a rule only the records which do not code using the first

1 system are sent to the second system. Therefore, only a single file pass is needed to attempt
2 coding with two or more systems. DSF, NCOA or FastForward, LACS, proprietary address
3 element correction and AEC normally involve separate file passes. LACS is an exception since
4 the database is sparse, with charges in some cases based on several cents per match rather than a
5 file pass, or a hybrid of these two types of charges, to encourage use of the service. AEC is
6 extremely intensive computationally and costs \$15 per thousand addresses from the USPS, and
7 even more than that from licensees due to additional file passes for validity checking.

8 Each of these processes has an appropriate frequency of occurrence which is determined
9 by the mailer in conjunction with the service provider. Normally, postal coding is repeated for
10 each mailing due to the relatively short shelf life of carrier route and ZIP+4 codes discussed
11 above. NCOA and LACS are run as often as each mailing event, which maximizes accuracy
12 while increasing processing costs, or as little as twice a year, and sometimes LACS is foregone
13 after a few trials. DSF processing is still the exception rather than the rule. When done, it may
14 be performed infrequently to gather information about the file, particularly the "house list" as
15 opposed to rentals for catalogers, and the subscriber list for Periodical publishers. Only for a few
16 mailers is it worthwhile to run DSF or use another approved method to obtain sequencing
17 information for high density and walk sequencing discounts. Proprietary address element
18 correction is incorporated regularly in processing by some mailers, while USPS AEC generally
19 requires a commitment to an offline process of working on the remaining noncodable records in
20 a file. Beyond USPS AEC, mailers can only resort to computerized or manual research on
21 individual addresses, attempts to contact local postal personnel, or attempts to contact the
22 recipient in an effort to pursue the elusive goal of 100% address quality.

23 For the advanced levels of address quality, additional expenses are incurred by the mailer
24 in deciding whether to use the matches or updates determined by a particular process. For
25 example, some mailers will examine the results of proprietary address element correction or
26 USPS AEC and decide for themselves whether to incorporate the changes into their own lists. If
27 this is not done, the alternative is simply to repeat the process for subsequent mailings, without
28 changing the original file. For certain mailers, a similar decision process occurs for move
29 updates.

30 It is difficult to make generalizations about the long term costs and achievable goals of
31 advanced address hygiene that apply across the board. The commitments of mailers vary widely

1 with respect to use of the various components, and the prices are hard to pin down because of
2 contractual agreements which may result in the bundling of services, as well as sizable volume
3 discounts offered by service providers. However, some general statements can be made. First
4 and most important, address files with very high quality levels are made by hard work, not born,
5 and additional hard work is needed to preserve quality levels. There remain many addresses that
6 are deliverable though not codable, such as mailing to "4th and Main" in a small town. Mailers
7 do want to hold on to customers and subscribers that are profitable even if the postal costs of
8 reaching these customers and subscribers are greater than average. List providers do want to rent
9 names and addresses that have commercial potential even if the address quality is variable.
10 Complete and correct address information is in some cases just not available from any accessible
11 source. Local government efforts change the addresses themselves, and postal reorganizations
12 change the codes associated with them. Some street addresses are not deliverable by the USPS
13 at all, in situations in which customers go to the local post office to get their mail. These street
14 addresses are not included in USPS databases, but are essential for mailers to maintain the option
15 to use non-USPS delivery services. In addition to the above considerations, computer
16 processing, particularly the truncation of address lines to generate labels and ink jet images,
17 continually recreates quality problems.

18 Second, the costs of address quality increase steeply as the list gets closer to 100%.
19 Because of the independent economic value of house lists and subscriber lists, it is generally not
20 possible to simply drop recalcitrant addresses to artificially reach perfection. Most address lists
21 code today at close to 95% by using CASS certified software, with some categories such as
22 compiled lists significantly lower. Each additional process, costing a few tenths of a cent per
23 piece, brings the percentage up by half a point to a full point. The most intensive processes cost
24 several cents per piece, plus additional costs for mailer evaluation of results, and are used by
25 only a small minority of mailers. However, as we will discuss below, any portion of the address
26 list that is not coded inevitably leads to additional costs in production, distribution and mailing,
27 and then to significant inefficiencies in USPS processing.

28 With respect to move updates, only NCOA can be considered to be so often used that it
29 has become a de facto standard. Proprietary COA services using industry databases can be a
30 helpful supplement. LACS is destined to decline in use as local governments complete address
31 conversions from rural to city style addressing. FastForward shows promise as an NCOA

- 1 alternative, particularly for the First-Class mailers who must meet move update requirements.
- 2 The use of USPS tools to gather further move updates after the fact of mailing, such as Service
- 3 Endorsements and the Address Change Service (ACS), is also widely recommended.

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IV. HOW ADDRESS QUALITY DEFICIENCIES HARM THE POSTAL SERVICE

INDUSTRY MAIL PRODUCTION INEFFICIENCIES

There is a direct connection between certain types of inefficiencies in mail production that are an outgrowth of deficiencies in address quality and increased costs for USPS. For example, flats lacking a carrier route code or ZIP+4 code must be separately packaged. Since they normally represent only a small portion of the mailing, these packages often must be placed on ADC pallets, in the case of Periodicals, or BMC pallets, in the case of Standard Mail, or in ADC and Mixed ADC sacks. This results in a pattern of containerization that is much less efficient than is the case for the flats that qualify for carrier route or automation rates. With respect to sacks, large mailers often do not drop ship sacks along with the corresponding pallets to the same destinations, but instead enter this mail locally. This creates delivery inconsistencies and increased opportunities for bundle breakage.

Some of the remedies for this kind of situation do not get to the root cause of deficient address quality. For example, the USPS may consider reverting in processing Periodicals and Standard Mail flats to the former practice of combining barcoded and noncoded pieces in the same packages, since the OCR capability has been added to the flat sorters.

What percentage of these pieces which the industry could not code will be codable by the OCR process? This percentage will be small, though not zero. Different coding systems do produce slightly different results. The USPS may in some cases have an updated database by the time they try to code the piece. Also, there may be local street name aliases that the USPS may use to code a previously uncoded record. In any event, most of the coding improvement that the OCR capability will provide will come from mailpieces that the mailer did not even attempt to barcode for one reason or another. In a recent symposium on flats automation, a USPS representative stated that excluding carrier route flats, 38% of the flats that were eligible to be barcoded had not been prebarcoded by the mailer.

MISSING APARTMENT AND SUITE NUMBERS

A key example of increased postal costs resulting from address quality deficiencies has to do with the issue of missing apartment and suite numbers. In 1998 these numbers were

1 incorporated, where appropriate, into the Delivery Point Bar Code, which increased the precision
2 of the DPBC but created a situation in which deficient addresses hinder mail distribution in
3 urban high-rise areas, often with erratic consequences. Without an apartment or suite number,
4 the postal automation equipment cannot sort the mail into sequence with mailpieces to the same
5 address that do include this information. Most of the time, the mailpiece can be delivered with
6 additional effort on the part of the letter carrier, though this does incur additional costs. Among
7 the more unfortunate possible other outcomes is that the mailpiece could be directed to the
8 wrong recipient, left on the floor to an uncertain fate, or returned with a notice of an unknown
9 addressee or an insufficient address. If the latter occurs, and the address is left on the file,
10 subsequent mailings to the same deficient address may fare better by chance.

11

12 INCOMPLETE ADDRESSES

13 Addresses with other missing elements can produce additional kinds of undesirable
14 consequences. A missing directional can result in a mailpiece being sent to the opposite side of
15 town and delivered to the wrong recipient. In some cases, the mailpiece will be discarded. If it is
16 returned to the carrier or placed in the corner mailbox with a handwritten notation, it will take a
17 second delivery effort before it reaches the intended recipient. Similar consequences can result
18 from the widespread practice of leaving off a street type, such as "Street" or "Place", which may
19 be innocuous or cause a significant ambiguity.

20 Even leaving off a carrier route code on an otherwise complete and correct address,
21 though all USPS regulations are followed, may cause additional work when the mailpieces are
22 sorted manually. Five digit packages do not require carrier route codes to be present on the
23 mailpieces. For every ten pieces, there may be nine for which the carrier route is known, but was
24 not required to be placed on the mailpiece, and a tenth for which the carrier route is unknown. A
25 postal worker assigned to sort these pieces may lack the necessary scheme knowledge, causing a
26 minor delay and an additional handling. The tenth piece may have an address deficiency that
27 interferes with proper delivery. All ten pieces qualify for the same rate.

28 All of the small and subtle costs that occur during the processing of address information,
29 such as internal handoffs among carriers, additional clerical labor that depends on scheme
30 knowledge, delayed processing of incomplete addresses, dealing with move updates, rerouting
31 missorted mail pieces, and many other situations add up to an impressive total, though difficult

1 to quantify. The industry can help by developing address formats which isolate individual
2 address elements, and can identify completeness and incompleteness of addresses and mark
3 missing components. However, there is no single system that can correct missing apartment and
4 suite numbers, and privacy concerns would arise if the USPS were to propose such a system.
5 The only other solution, to take away barcode discounts for incomplete addresses, would create a
6 mountain of noncoded, nonautomation mail and just relocate the problem. This is a genuine
7 dilemma which the USPS and industry can whittle down but not eliminate in the near future.

8

9 THE ADDRESS QUALITY COST CURVE FOR THE USPS

10 We have claimed that the industry has a cost curve for address quality which has the
11 characteristic that costs increase steeply as the file approaches closer to 100% and as the less
12 expensive approaches have been exhausted. What is the corresponding cost pattern for the USPS
13 when mailers do not utilize advanced address quality techniques? We believe that the cost curve
14 for the USPS for the portions of a mailing with address quality deficiencies does not show the
15 steep ascent that applies to the industry cost curve. There is a limit on the USPS costs that is
16 reached in some cases when a mailpiece has been redirected, in other cases when an endorsement
17 is processed, and in cases such as unendorsed Standard Mail when the piece is discarded.
18 However, the USPS does begin to incur higher costs earlier on the curve, because of the
19 additional expenses of processing incomplete addresses that may have legitimately qualified for
20 carrier route or automation discounts under current regulations. The USPS curve does turn
21 upward for the last few percentage points, because of the expenses associated with handling
22 noncoded addresses. Despite these differences between the industry cost curve and the USPS
23 cost curve, they both share the characteristics that as address quality becomes more deficient,
24 costs continue to increase. If there are ways to attain address quality levels much closer to
25 100%, then all parties, including mailers, service providers, and the USPS, are potential
26 beneficiaries.

1 **V. INCORPORATING ADDRESS QUALITY INCENTIVES IN RATE DESIGN**

2
3 What can be done to incorporate address quality incentives more effectively in rate
4 design? Several remedies are possible, though each has its own set of benefits and potential
5 difficulties.

6 As to carrier route discounts, they have always been density based, while at the same
7 time, they have address quality as a prerequisite. A significant portion of this address quality
8 investment is thrown away when pieces with known carrier route codes do not qualify for
9 discounts because of lack of mailing density. One way to more fully recognize this address
10 quality investment while reducing USPS costs would be to recognize the value in
11 certain situations of five digit mixed carrier route packages. These packages would qualify for a
12 smaller discount than basic carrier route packages, but are worth more than the current five digit
13 packages, since only pieces which have addresses of sufficient quality to allow the carrier route
14 code to be identified would be included in them. A particular situation that would benefit from
15 the use of five digit mixed carrier route packages is mail drop shipped to the DDU and processed
16 manually in that environment. If these packages were allowed, almost all the mail to a particular
17 DDU could be included in the DDU drop shipment, qualify for discounts for address quality and
18 for drop shipping to the final destination, and be processed efficiently.

19 In this testimony, I have argued that automation discounts should be increased, rather
20 than decreased or only maintained, in consideration of the costs to the mailer of attaining high
21 address quality and maintaining it through regular certifications. Although this testimony has not
22 provided an economic analysis of how much these discounts should be increased, the relevant
23 standard of comparison is the depth of these discounts in the current rates. Other things being
24 equal, the behavior of mailers in considering investments in address hygiene will be driven by
25 the relative magnitude of the discounts over time.

26 It is important to note that the relative magnitude of the discounts can be affected in
27 either of two ways. Either the automation rates can be lowered, or the rates that must be used by
28 mailpieces with defective addresses can be increased. In the case of Standard Mail, these are the
29 basic and 3/5 digit presorted rates, while for Periodicals, the basic, three digit and five digit
30 presorted rates are all potentially relevant. Depending on the percentage of defective addresses
31 and the size of the mailing, these are the possible alternatives. Through an appropriate

1 combination of increases and decreases from what the USPS has proposed, the amount of
2 revenue that will be realized can be adjusted to whatever it needs to be.

3 Beyond that, the USPS should give serious consideration to one or more ways to create
4 incentives in the rate structure for greater depth of coding. One way to do this would be to
5 provide deeper discounts for complete and correct addresses and lesser discounts for addresses
6 with missing elements that can still produce a ZIP+4 code, but with other than the maximum
7 depth of code. In other words, the automation discounts should be de-averaged with respect to
8 the depth of the ZIP+4 code underlying them. This would add complexity to the rate structure,
9 but would provide direct incentives for obtaining apartment and suite numbers and for various
10 methods of address element correction. Industry would respond to these rate signals in various
11 ways, such as by developing methods to improve the distribution of known apartment and suite
12 numbers among mailers.

13 Another method would be to certify addresses that exactly match a DSF delivery point as
14 eligible for an address quality discount, over and above the barcode and carrier route discounts.
15 If this were as little as a few tenths of a cent, to offset the costs of obtaining the information, it
16 would have a major effect on mailer behavior. To make this approach viable, the USPS would
17 have to find ways to make the DSF more readily available to mailers.

18 A third way to accomplish this goal, which I would not recommend, would be to
19 withdraw automation discount eligibility for addresses that are not complete and correct. This
20 solution is draconian, in that it would create excessive amounts of residual mail, to the detriment
21 of USPS operations.

22 Any of these techniques could be further strengthened by requiring move update
23 processing through NCOA, FastForward, or other acceptable means, to have been carried out
24 recently, as a further condition for rate eligibility. This is already the case for First-Class mailers
25 qualifying for automation and presorted rates, but questions have been raised about compliance,
26 and whether mailers are following through with updates to their own databases.

27 One other approach would be to provide additional incentives to mailers who make a
28 commitment to 100% address quality for their entire mailing program. This would mean that
29 every single address must be complete and correct, and perhaps that move update procedures
30 must have been performed prior to mailing. There would be some difficulties with such a program
31 in situations where the USPS had a database error, or in which a new address was not yet

1 reflected in the files. If these issues could be worked around using a list of allowable exceptions,
2 the basic concept could be workable for Periodicals. In Standard Mail, it would be difficult to
3 prevent mailers from diverting their defective but still potentially deliverable addresses to a
4 separate mailing.

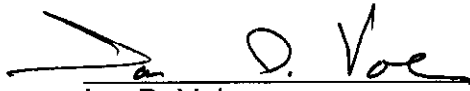
5 Finally, in order to reduce costs, limit manual procedures, improve delivery performance,
6 and increase delivery consistency by cutting back on the “tail of the mail”, the USPS needs to
7 improve its rate design methodology with respect to address quality incentives. The USPS should
8 adopt procedures that guarantee that it evaluates its own rate case proposals, and makes the Postal
9 Rate Commission and the mailing community aware of the effects of its proposals, with respect to
10 incentives for address quality.

11

CERTIFICATE OF SERVICE

Pursuant to Rule 12 of the Commission's Rules of Practice, I caused the following documents to be served upon all parties of record in Docket R2000-1:

1. Postcom, et al.-T-1; Testimony of Sander A. Glick
2. Postcom, et al.-T-2; Testimony of Joseph E. Schick
3. Postcom, et al.-T-3; Testimony of Joe Lubenow



Ian D. Volner