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OFFICE OF THE SECRETARY POSTAL RATE COMMISSION
WASHINGTON, DC 20268-0001

POSTAL RATE AND FEE CHANGES, 2000

Docket No. R2000-1

REBUTTAL TESTIMONY
OF
NANCY STAISEY
ON BEHALF OF
THE UNITED STATES POSTAL SERVICE

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1 REBUTTAL TESTIMONY

2 OF

3 NANCY STAISEY

4
5
6 **AUTOBIOGRAPHICAL SKETCH**

7 My name is Nancy Staisey. I am a Partner in the PricewaterhouseCoopers
8 (PwC) Management Consulting Practice in Arlington, VA.

9 I am the leader of PwC's Global Postal Industry Team and am the client
10 service partner for the firm's projects with the U.S. Postal Service. I have more
11 than 15 years of management consulting experience, including market research,
12 performance measurement, strategic change assignments with public sector
13 clients, strategic reviews, benchmarking, and best practice research. I have
14 worked with clients in the mail, package, and freight sector in several countries,
15 including the United States, Canada, South Africa, Ireland, Netherlands, and
16 Singapore.

17 During my tenure at PricewaterhouseCoopers, I founded and was
18 responsible for our Canadian Survey Research Centre. As the partner
19 responsible for our survey research practice in Canada, I directed the
20 development, implementation and analysis of numerous market research
21 surveys. I also consulted extensively on survey design issues. I provided expert
22 advice on questionnaire design for a wide range of surveys from the Canadian
23 Census to market research surveys on new products and services.

1 I have consulted on new product development, mail operations, and
2 quality of service measurement issues in the postal industry. I have taught
3 statistics and research methods at the university graduate school level.

4 I attended Northwestern University, where I received a B.A. in Psychology
5 in 1973. Following my undergraduate education I completed my M.A. in
6 Psychology with distinction at Carleton University in 1980 and also received my
7 Ph.D. in Psychology from Carleton University in 1984, focusing in Applied
8 Research Techniques and Statistics.

9
10

11 **I. PURPOSE AND OVERVIEW OF TESTIMONY**

12 The purpose of my rebuttal testimony is to respond to three intervenor
13 market research testimonies filed in this proceeding: witness Heisler's testimony
14 on behalf of Pitney Bowes (Tr. 23/10582 et. seq.); witness Lawton's testimony on
15 behalf of Stamps.com (Tr. 23/10359 et. seq.); and witness Boggs' testimony on
16 behalf of E-Stamp Corporation and Stamps.com (Tr. 29/13814 et. seq.). These
17 three testimonies, independently presented, attempt to demonstrate a sizable PC
18 Postage and metered mail market. In the case of witness Heisler, the testimony
19 attempts to size the market with discounts offered to mailers under certain
20 conditions.

21 After reviewing the testimonies of witness Heisler, witness Lawton, and
22 witness Boggs, I find that all three market research studies suffer from similar
23 shortcomings. None of the studies provides a reliable and valid estimate of the

1 PC postage and metered mail market size. As a result of these deficiencies, it is
2 my opinion that these studies should not be relied upon by the Postal Rate
3 Commission.

4 When evaluating market research, one must be attentive to potential
5 questionnaire bias and methodological flaws. My testimony will focus on
6 providing evidence of questionnaire bias as well as methodological issues in the
7 three direct testimonies mentioned above. Questionnaire bias refers to the nature
8 or content of survey questions that may mistakenly or inappropriately “be worded
9 in such a way as to lead the respondent into the answer” (Hague & Jackson,
10 Market Research at 134). Methodological flaws refer to unclear or inappropriate
11 steps taken in survey design or in analyzing data, leading to survey results that
12 are not valid and reliable estimates for generalizing to the target population.

13 The remainder of my testimony is divided into four sections. Section II
14 describes in detail the shortcomings of witness Heisler’s testimony in providing
15 an unbiased and methodologically accurate sizing of the relevant PC
16 postage/meter market. Sections III and IV detail similar shortcomings of witness
17 Lawton’s and witness Boggs’ testimonies, respectively, through their market
18 research. Section V summarizes my analysis of the three testimonies and their
19 failure to accurately size the PC postage and metered mail market.

20

21

1 **II. CRITIQUE OF TESTIMONY: WITNESS HEISLER**

2 In his market research, witness Heisler measures household and non-
3 household customer reactions to possible discounts for certain single piece First-
4 Class Mail which is metered (note: hereafter, "metered mail" refers to both mail
5 metered by a postage meter and by a PC postage product). He claims that the
6 results of his study indicate a substantial market interest in PC postage and
7 postage meters when a one-cent discount on First-Class Mail postage is
8 associated with the use of these products (Tr. 23/10584). Through careful
9 scrutiny of his research, I believe witness Heisler's conclusions are misleading
10 due to flaws present in his questionnaire and in the methodological analysis of
11 the survey responses. Furthermore, although witness Heisler claims to
12 demonstrate a sizable interest in PC postage and metered mail, he fails to *size a*
13 *relevant PC postage and metered mail market.*

14
15 **A. Questionnaire Bias**

16 In order to accurately measure the level of interest of a respondent pool in
17 the adoption of a new product, basic information regarding this new product
18 should be provided. Respondents need to be able to make an informed decision
19 by being presented key and relevant information about the product in a factual
20 and neutral manner. For example, let us assume that I go to a bookstore to
21 purchase a book. As I am paying for the book, I am offered a book club
22 membership which would provide me with a 10% discount on all future books
23 purchased. My initial reaction might be very positive. Yet, upon further inquiry I

1 find out that there is also an obligatory \$20 subscription fee in order to become a
2 member. My reaction to the offer might then be somewhat different. I know I
3 would do a quick calculation of how many books I would have to buy to reach the
4 point of net gain from the discounts after taking into consideration the
5 subscription fee. If I further discovered that the discount came as a refund and
6 required me to complete a mail form after each book purchase to receive the
7 discount, my reaction and likelihood of signing up might again be affected. The
8 point I am attempting to illustrate is that only once I have been presented with the
9 factual details of the benefits and burdens of the product, will I be able to make
10 an informed decision to become a member.

11 Specifically, in regards to metered mail, all the basic factual and neutral
12 information concerning this new postage meter or PC postage product need be
13 provided in order to accurately measure the interest of a respondent in metered
14 mail. This allows the respondent to make an informed decision concerning their
15 likelihood of adopting metered mail.

16 Witness Heisler provides a description of the postage meter and PC
17 postage product to both household and non-household respondents, prior to
18 attempting to gauge their likelihood of use (Tr. 23/10589/10592). However, I note
19 multiple sources of bias in the description of the product which lead to an
20 oversizing of the metered postage market.

1 **1. Benefits described in the concept statement may not accrue to the**
2 **respondent**

3 When performing a survey to create an estimate of the population interest
4 in a new product, it is necessary to provide an accurate description of the product
5 to respondents. In witness Heisler's concept statement to non-household
6 respondents, he claims that mail metered by a PC postage product and by a
7 postage meter "projects a **more** professional business image" [emphasis added]
8 (Tr. 23/10592). Depending on the respondent's current mailing approach,
9 metered mail may or may not contribute to a "more" professional image. Due to
10 this bias in the concept statement, the respondents may provide answers to the
11 questionnaire which result in an over-sizing of the interest in metered mail in the
12 non-household sector.

13 **2. Biased wording is used in the product description of PC postage**

14 In the product description presented to household respondents, witness
15 Heisler creates a hypothetical PC postage product with a "monthly access fee of
16 **just \$5**, plus the regular cost of first-class postage" [emphasis added] (Tr.
17 23/10589). Although witness Heisler does admit to providing a hypothetical
18 product compared to existing PC postage products available on the market
19 today, the addition of the word "just" when presenting the respondent with the
20 monthly access fee, leads the respondent to regard the \$5 as a small fee, when
21 in reality, depending on a mailer's monthly mail volume, a \$5 fee may result in
22 negative net savings for the mailer. By using terminology which may
23 misrepresent the relative value, a respondent may be more likely to say he or

1 she will subscribe to the product, resulting in an overestimate of the likelihood of
2 adopting PC postage.

3 ***3. Failure to describe additional burdens of the PC postage product***

4 Providing survey respondents with a product description that accurately
5 describes the benefits and burdens of the use of a new product, will allow for
6 accurate measurements of interest in the product. Witness Heisler fails to inform
7 his respondents of key aspects of purchasing postage over the Internet. There
8 are additional burdens associated with the subscription of PC postage that exist
9 beyond the cost of a monthly fee. For example, the PC postage product
10 description does not inform respondents of the necessary connection with the
11 Internet in order to print postage. For household respondents and non-household
12 respondents, a connection with the Internet may create a burden if the
13 respondent has a limited number of phone lines or if the respondent pays its
14 Internet Service Provider (ISP) by the minute. Similar to the analogy of the book
15 club membership I illustrated earlier, by not providing a well-balanced description
16 of the benefits and burdens of the product, the respondent can only provide
17 responses based on the available product characteristics, leading to biased
18 conclusions that a sizable interest exists in postage purchased over the Internet.

19 ***4. Net savings not evident to respondent***

20 After asking respondents to report their likeliness to subscribe to Internet
21 postage (following the presentation of the product description), the survey
22 conducted by witness Heisler presents another product scenario to those who did
23 not report that they are "extremely likely" to subscribe to metered postage (Tr.

1 23/10590-92). Those not reporting that they were extremely likely to subscribe
2 are asked to report their likelihood of subscribing to metered postage, if a per
3 piece discount of one cent on First Class Mail postage is provided (Id.). In this
4 follow-up question, no mention is made of a lease fee of \$20 per month or an
5 access fee of \$5 per month. Although the responses suggest that this discount
6 would result in a higher rate of subscription, the respondents have not been
7 provided with net savings that would result from their subscription to metered
8 postage based on the amount of mail the respondent would use per month
9 (assuming a hypothetical monthly access fee of \$5/month for PC postage or
10 lease fee of \$20/month for a postage meter). Again, as in the case of subscribing
11 to the book club membership, this questionnaire does not present all necessary
12 pieces of information to allow the respondent to make a well-informed response.
13 Witness Heisler is potentially oversizing the market interest in PC postage due to
14 the bias in his failure to inform the respondents with net savings information.

15

16 **B. Methodological Flaws**

17 ***1. Small sample sizes lead to large variance in data analysis***

18 Witness Heisler's survey research results are based on small sample
19 sizes, and more importantly on a small number of positive respondents, from
20 which he makes estimates for the pieces of mail affected by PC postage in
21 households and non-households. To illustrate, consider witness Heisler's results
22 from his questionnaire to non-household respondents with 25 employees or less,
23 when there is no discount to First-Class Mail using PC postage. He estimates

1 that 216 million pieces per year would shift to PC postage. These results are
2 calculated from a sample size of 200 respondents, where only 3 provided
3 positive responses (Tr. 23/10599). In another example, witness Heisler
4 concludes, from 2 positive responses, that 6.8 million pieces would shift in the
5 non-household sector (26-50 employees) for the scenario where there is no
6 discount on First-Class mail printed by a meter (Tr. 23/10602). Normally, a small
7 sample size leads to large coefficients in variation, an important criteria when
8 evaluating statistical results. Given the small sample sizes in the household and
9 non-household studies, we would expect the coefficients of variation to be high.
10 Witness Heisler, however, does not provide coefficients of variation when asked
11 to do so in USPS/PB-T3-10 (Tr. 23/10622). Instead he provides upper and lower
12 bounds, which have no statistical meaning. Since the true coefficients of variation
13 are not provided, one cannot test directly the hypothesis that the small sample
14 sizes lead to large coefficients of variation. However, one can look at the upper
15 and lower bounds provided in USPS/PB-T3-10 and see that these numbers are
16 very large. These two examples demonstrate that the results of the number of
17 pieces potentially affected by PC postage or postage meters are based on
18 sample sizes that are too small to provide meaningful results from the number of
19 positive responses.

20 ***2. Response rate not provided***

21 Throughout his study, witness Heisler does not explicitly state the
22 response rate associated with the Household and Non-Household Surveys. In
23 market research studies, one would normally expect to have the response rate

1 available in order to assess the degree to which the survey results are
2 representative of the population surveyed. Since witness Heisler has not
3 provided this rate, I call into question the validity of his survey results.
4
5

6 **III. CRITIQUE OF TESTIMONY: WITNESS LAWTON**

7 In her market research, witness Lawton provides a description of how the
8 use of one PC Postage enabler (Stamps.com) has affected how customers
9 process their outgoing mail (Tr. 23/10364). She claims that the results from her
10 study indicate that Stamps.com customers are using postal services in a way that
11 is more efficient and cost-effective as well as gaining a greater awareness of
12 USPS services. Together with her finding that an estimated one million fewer
13 visits to the Post Office are made each month due to Stamps.com, witness
14 Lawton concludes that the use of this PC postage product has the potential to
15 significantly cut costs for the USPS while increasing patronage (Tr. 23/10377).
16 Through a close scrutiny of her market study, I believe that bias in the survey
17 questionnaire and flaws in the methodology lead to invalid conclusions. Witness
18 Lawton, herself, has identified several shortcomings in her study (Tr. 23/10365-
19 66). Witness Lawton does attempt to gauge the impact of PC postage, yet, like
20 witness Heisler, fails to size the market in a valid and reliable manner.
21

1 **A. Questionnaire Bias**

2 ***1. Retrospective survey design leads to poor recall***

3 Witness Lawton clearly explains in her testimony that the design of her
4 study was intentionally retrospective (Tr. 23/10365). In a market research study,
5 a retrospective survey requires careful analysis since, as witness Lawton has
6 correctly stated, retrospective data are “always at risk for response error due to
7 poor recall.” (Id.). While witness Lawton is aware of this potential bias in her
8 study design, her conclusion that “it is obvious that Stamps.com has completely
9 changed how customers run their postal processes” (Tr. 23/10377) is not
10 appropriate given the high risk of response error due to poor recall of the
11 respondents.

12 ***2. Phrasing of questions restrict the respondent***

13 In the phrasing of the survey questions, Witness Lawton encourages her
14 respondents to focus on the improvements in their awareness and behavior due
15 to using Stamps.com’s product. As a result she does not allow the respondents
16 the opportunity to record all possible and relevant answers to a specific question.
17 Witness Lawton begins her survey with two questions regarding the effect of
18 Stamps.com on Post Office visits. The first question asks respondents to respond
19 (yes or no) if fewer trips were made to the Post Office due to the respondent’s
20 use of Stamps.com (Tr. 23/10368). It is followed by a question asking
21 respondents answering “yes” to quantify the number of fewer trips made
22 (Stamps.com-LR-2 at 1). No allowance is made for respondents to report an
23 increase in the number of visits to the Post Office. By only measuring a reduction

1 in trips and not allowing for measurement of a increase in trips, the survey is
2 biased towards overestimating the net negative change in the number of Post
3 Office trips made.

4 In addition, in this line of questioning, witness Lawton, does not apply
5 commonly used approaches to avoid confusion in retrospective reporting and to
6 facilitate accurate recall. First, the time frame to be considered in reporting the
7 number of trips and a change in the number of visits is not clearly specified. This
8 may lead to confusion and measurement error in reporting a change in the
9 number of trips. The survey also does not first ask the respondent to quantify the
10 number of visits to the Post Office in the month (or months) before and the month
11 (or months) after beginning using Stamps.com. This is an approach which can
12 facilitate more accurate recall. To draw any meaningful results from the first two
13 questions regarding behavioral change in a respondent's visits to the Post Office,
14 witness Lawton needs to clearly specify a time frame and provide a relative
15 comparison of trips made per month before and after beginning use of
16 Stamps.com. Failing to provide this comparison results in responses that may not
17 provide meaningful conclusions about the behavior pattern of an individual
18 regarding the processing of mail.

19 ***3. Respondent confusion due to lack of time-specific reference***

20 In asking respondents about their behavior regarding postage and
21 addressing prior to using Stamps.com, witness Lawton's questionnaire confuses
22 some respondents as to the time orientation of the questions. Although witness
23 Lawton acknowledges this confusion, her conclusion that the orientation error

1 "underestimates the way in which Stamps.com has improved address quality
2 from the respondent's previous addressing methods" (Tr. 23/10366) is
3 methodologically inappropriate, since a conclusion based on confusion on the
4 part of the respondents should not be used as sound evidence to support the
5 effect of the ways Stamps.com has improved customer postage and addressing
6 behavior.

8 **B. Methodological Flaws**

9 ***1. Measurement error due to lack of clarity in questions***

10 Within her survey, witness Lawton asks several questions regarding
11 frequencies of behavior (e.g. "How many fewer trips to the Post Office do you
12 make?"; Stamps.com-LR-2 at 1). According to witness Lawton, respondents
13 answered in a variety of ways, some stating a range, others stating discrete
14 numbers, and others providing verbatim comments. This is not surprising given
15 the lack of clarity in the instructions of the survey. What if, for example, in
16 regards to the question above, three respondents answer using the following
17 language, "20% to 50% fewer trips"; "Quite a few trips less"; and "I save myself a
18 couple of trips a week". How are these responses reconciled with one another
19 and in relation to other responses? Although witness Lawton states that she
20 reconciles the various answers provided (Tr. 23/10365), I believe that it is
21 methodologically inappropriate to draw survey research conclusions from remedy
22 procedures taken by witness Lawton when there is much room for statistical
23 measurement reporting error.

1 **2. Low response rate**

2 In order to present valid conclusions from a market research survey that
3 are an appropriate estimate of the population's interest in a new product, the
4 response rate in a study needs to suggest that the respondents are providing
5 information that is indicative of the population at large. The response rate of this
6 e-mail survey, as stated by witness Lawton (Tr. 23/10367) is 20.4 (20.4 percent
7 provide completed surveys). Although she claims that this rate is "typical" for a
8 customer invitation to an online survey, this low response rate, when conducting
9 market research, indicates that a very large majority of the randomly selected
10 Stamps.com customers were *non-respondents* (a potential 79.6% non-response
11 bias). This non-respondent population may have provided significantly different
12 responses from those who did respond. This low response rate does not allow for
13 reliable conclusions to be made that are indicative of the entire Stamps.com
14 population.

15
16
17 **IV. CRITIQUE OF TESTIMONY: WITNESS BOGGS**

18 In his market research, witness Boggs examines the current use of
19 different postal solutions by small businesses and the opportunity associated with
20 new PC and Internet postage products and services. He concludes not only that
21 there exists a significant interest among small businesses in PC and Internet
22 postage products and a sizable market for PC postage solutions, but also claims
23 that PC postage solutions will help the USPS move mail more efficiently (Tr.

1 29/13857). By closely examining witness Boggs' testimony, I believe that his
2 market research suffers from numerous flaws that prevent his analysis from
3 providing valid and appropriate support to demonstrate a sizable interest in the
4 PC postage market.

6 **A. Questionnaire Bias**

7 ***1. Lack of a comprehensive concept statement***

8 In order to accurately demonstrate an interest in a new product, a
9 questionnaire must provide the necessary information to allow for an informed
10 response to be made. In his questionnaire, witness Boggs presents the idea of
11 PC postage as an alternative to the traditional postage meter to his respondents
12 (Tr. 29/13852-53), attempting to gauge the interest of small businesses in this
13 new product. Witness Boggs, however fails to provide the respondents with a
14 comprehensive description of the PC postage concept (i.e. how the PC postage
15 product actually works, specific characteristics, benefits/burdens). By not
16 presenting this description, the responses provided by the sample of small
17 businesses regarding their *interest* level in PC postage are not made with a
18 complete understanding of the product. This bias in witness Boggs' survey may
19 lead to erroneous conclusions about the true interest of small businesses in PC
20 postage.

21 Specifically, this survey ignores providing small business respondents with
22 pricing information when seeking the interest level in the PC postage product.

23 Since no details are provided about the cost burdens associated with printing

1 postage from the Internet (whether an Internet connection when printing postage
2 is required or not), these small businesses are not properly educated about the
3 PC postage concept and are therefore providing responses resulting from a
4 questionnaire bias. The conclusions made from this survey about the interest
5 level in the PC postage market are not valid or reliable.

6

7 **B. Methodological Flaws**

8 ***1. Low response rate***

9 In order to present valid conclusions from a market research survey that
10 are an appropriate estimate of the population's interest in a new product, the
11 response rate in a study needs to suggest that the respondents are providing
12 information that is indicative of the population at large. The response rate of this
13 survey, as stated by witness Boggs (Tr. 29/13834) is 16.5 percent. Since a very
14 large majority of the randomly selected small businesses are non-respondents (a
15 potential 83.5% non-response rate), this non-respondent population may have
16 provided significantly different responses from those who did respond. This low
17 response rate does not allow for conclusions to be made that are indicative of the
18 small business population.

19

20

1 **C. Other Issues**

2 **1. Reliance on expert opinion in market research**

3 In market research studies, conclusions about the behavior of
4 respondents as well as interest expressed in a new product must be supported
5 by the analysis of the respondent data. Upon close inspection of his testimony,
6 witness Boggs appears to come to several conclusions by relying on expert
7 opinion and professional judgement. For example, at Tr. 29/13848, witness
8 Boggs writes, "IDC [International Data Corporation] believes that PC postage will
9 come to represent over 10% of total postage spending by small businesses and
10 income-generating home offices." Although this conclusion appears to be
11 supported by Table 10 Tr. 29/13849), a number of key assumptions are made by
12 IDC based on past history or its own judgment to arrive at this result (Tr.
13 29/13873-74). In a testimony centered on market research studies, witness
14 Boggs inappropriately relies on expert opinion to arrive at conclusions regarding
15 PC postage and its implications in the small business sector.

16

17

18 **V. SUMMARY AND CONCLUSIONS**

19 After closely scrutinizing the testimonies of witness Heisler, witness
20 Lawton, and witness Boggs, I believe that my testimony has demonstrated that
21 these three market research studies suffer similar shortcomings due to
22 questionnaire bias and methodological flaws. By providing results that are
23 therefore neither reliable nor valid, these studies do not accurately size the

- 1 relevant PC postage and metered mail market. As a result, I strongly discourage
- 2 the use of these three market research studies as an input to the decision-
- 3 making process concerning a discount on First-Class single piece rates when
- 4 metered and PC postage are used.