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1 **Autobiographical Sketch**

2 My name is Sander A. Glick. I co-manage the Economic Systems practice
3 at Project Performance Corporation (PPC), a consulting firm based in McLean,
4 Virginia. PPC provides economic and technology consulting services to private
5 and public sector clients. I joined PPC in 1994 as an Analyst and am now a
6 Program Manager. At PPC, I have worked on a number of economic and cost
7 issues for mailer associations, the Department of Defense, and the Department
8 of Energy.

9 In Docket No. R97-1, I testified on behalf of the Magazine Publishers of
10 America (MPA) regarding the special service fee for Qualified Business Reply
11 Mail (QBRM) and the appropriate method for distributing rural carrier costs to
12 mail classes and subclasses. In this case, I am also testifying on behalf of the
13 Association for Postal Commerce (PostCom) and the Recording Industry
14 Association of America (RIAA) on Standard (A) rate design. I am currently
15 serving as an industry representative on the Mailers' Technical Advisory
16 Committee's (MTAC) Package Integrity Work Group and was an industry
17 observer on the MTAC Package Integrity Study.

18 I attended the Maxwell School of Citizenship and Public Affairs at
19 Syracuse University, where I received a Masters of Public Administration in 1994,
20 and Carleton College, where I received a Bachelors Degree, magna cum laude,
21 in Physics in 1993. I am a member of the American Economic Association and
22 the System Dynamics Society.

1 **I. Purpose of Testimony**

2 In this testimony, I propose two improvements to the United States Postal
3 Service's (Postal Service or USPS) costing methods, and quantify the cost
4 savings that will result from cooperative Industry/Postal Service efforts to reduce
5 costs by improving bundle preparation and USPS bundle handling operations.

- 6
- 7 • Section II of my testimony explains why allied mixed-mail and not-
8 handling mail processing costs should be distributed to subclasses
9 using a distribution key comprised of tallies from both allied operations
10 and piece-distribution operations.

- 11
- 12 • Section III proposes an improvement to the Postal Service's rural
13 carrier mail shape adjustment, which corrects for definitional
14 differences between the National Mail Count (NMC) and the Rural
15 Carrier Cost System (RCCS).

- 16
- 17 • Section IV quantifies the savings that will result in the test year from
18 expected improvements in bundle preparation and handling.

19

20 MPA witness Cohen (MPA-T-1) draws upon my testimony to develop Test
21 Year After Rates (TYAR) costs by subclass.

1 **II. Mail Processing Costs**

2 The Mail Processing component of Clerks and Mailhandlers costs (Cost
3 Segment 3 (C/S 3)) is the single largest component of USPS accrued costs. In
4 TYAR, it will comprise more than \$15 billion--23 percent of the accrued costs for
5 the entire Postal Service. USPS-T-14, Exhibit-14K at 8 and 20. With
6 piggybacks, mail processing costs increase to more than \$20 billion.

7 In this section, I first summarize the Postal Service's proposed method for
8 distributing mail-processing costs and review the Commission's Docket No. R97-
9 1 decision pertaining to the distribution of allied mixed-mail costs to subclasses. I
10 then explain why the evidence in this case supports distributing a portion of allied
11 mixed-mail and not-handling costs using allied direct tallies, and a portion using
12 piece-distribution direct tallies.¹ My analysis supports the broad distribution of
13 allied mixed-mail and not-handling costs that forms the basis of witness
14 Stralberg's (TW-T-1) mail processing distribution method.

15 **A. Postal Service Method**

16 Given the nature of mail processing, it would be impossible for clerks and
17 mailhandlers to identify the amount of time they spend processing mail of
18 particular mail subclasses. This is because clerks and mailhandlers spend more
19 than one-half of their time either handling containers of mixed mail or not
20 handling mail at all. USPS-T-17 at 26, Table 2. For this reason, the Postal
21 Service uses a work sampling system, the In-Office Cost System (IOCS), to
22 assign mail processing costs to mail subclasses. While IOCS facilitates this
23 process, the cost distribution method must still address the issue of how to
24 distribute to mail subclasses the costs of the time clerks and mailhandlers spend
25 handling containers of mixed mail and the time they spend not handling mail at
26 all. Below, I describe the Postal Service's proposed distribution method.

27 In this case as in previous ones, the Postal Service generally distributes
28 the cost for direct tallies (tallies where the data collector actually observes and
29 records the mail class being handled by an employee at the time the employee

¹Allied mail processing operations include platform, opening unit, pouching, sack sorting, and cancellation/mail preparation operations.

1 was sampled), which comprise approximately 45 percent of mail processing
2 costs, (USPS-T-17 at 26, Table 2) to the subclasses that the employee was
3 observed to be handling by the IOCS data collector. It then distributes mixed-
4 mail costs, which comprise approximately 12 percent of mail processing costs,²
5 USPS-T-17 at 26, Table 2, as follows:

- 6
- 7 • First, the costs for mixed items³ are distributed to mail subclasses
8 in proportion to the subclass distribution of direct tally costs for the
9 same operation (e.g., manual flat sorting, platform operations) and
10 item type.
- 11
- 12 • Second, the costs for identified containers are distributed. An
13 "identified container" is a container observed being handled by an
14 employee, where the data collector identifies the contents as mail
15 that is not identical and records the percentages of container
16 volume occupied by various items and loose shapes of mail. The
17 costs for identified containers are first disaggregated based upon
18 the recorded item type and loose shape percentages. Then, these
19 disaggregated costs are distributed to subclasses using the
20 subclass distribution of costs for direct and mixed items and direct
21 loose shapes of the same item type or loose shape and operation.
- 22
- 23 • Third, the costs of unidentified and empty containers are
24 distributed. The distribution method assumes that the costs
25 associated with these containers have the same distribution as the
26 combined costs of identical and identified containers of the same
27 container type in the same operation.

28 Finally, all other tallies, which account for approximately 43 percent of mail
29 processing costs, USPS-T-17 at 26, Table 2, collectively referred to as not-

²The majority of mixed-mail costs are for employees handling containers (e.g., hampers, APCs) of mail.

1 handling tallies, are generally distributed in proportion to the distribution of all
2 other mail processing costs in the same operation. The primary exception to this
3 method is for not-handling tallies in the allied operations. This is an important
4 exception because allied operation costs at MODS 1 & 2 facilities were
5 approximately \$3 billion in Base Year 1998. USPS-T-17 at 24, Table 1. The not-
6 handling share of these costs is distributed to mail subclasses in proportion to the
7 combined direct and mixed-mail tallies from all mail processing operations.

8 **B. Docket No. R97-1 Decision**

9 In Docket No. R97-1, the Commission recommended distributing allied
10 mixed-mail costs using a key consisting of direct tallies from both allied and non-
11 allied (i.e., piece-distribution) operations. In support of this, the Commission
12 noted that allied workload has two drivers - piece-distribution support⁴ and
13 bypass processing⁵ - and that the “mail in allied pools that is prepared for, and
14 moved to, the piece-distribution MODS pools typically does not receive a direct
15 tally until it reaches those distribution pools.” PRC Op. R97-1, para. 3170-3171.
16 Furthermore, the Commission said, because containers of identical presorted
17 mail tend to show up as allied direct tallies, while containers of non-identical mail
18 do not, distributing allied mixed-mail costs based only upon allied direct costs
19 tends to overstate costs for presorted mail (which is primarily bypass workload)
20 and to understate costs for nonpresorted mail (which requires much more piece
21 distribution):

22
23 The presort mailers agree that mail that receives an
24 individual piece distribution is likely to receive a direct tally
25 and that mail that travels in bulk in mixed items and
26 containers is not. What witness Degen overlooks, they
27 argue, is that presorted mail typically travels through allied
28 pools in bulk in *identical* (or easily counted) items or
29 containers. For that reason, they argue, presorted mail is
30 much more likely than other mail to receive a direct tally in
31 allied pools, even though it less likely than other mail to

³Examples of items are sacks, pallets, and bundles.

⁴Piece-distribution support consists of activities such as moving mail from the platform to a piece-distribution operation (e.g., flat sorting machine, barcode sorter).

⁵Bypass processing is the handling of mail that bypasses USPS piece-distribution operations because the mail was presorted by the mailer. Crossdocking a pallet is an example of bypass processing.

1 receive a subsequent piece distribution. Tr. 36/19285.
2 This, they say, is why presorted mail makes up most of the
3 direct tallies in allied pools, and why these tallies provide a
4 poor picture of the subclasses in allied pools that are
5 subsequently piece sorted in the distribution pools. For
6 these reasons, the presort mailers argue, the distribution
7 key in allied operations should reflect the subclass
8 composition of the direct costs in the distribution pools.
9 Presort Mailers Reply Brief at 12-13. The Commission
10 concludes that this argument is valid.

11
12 PRC Op. R97-1, para. 3172.

13 The Commission also stated that the potential for bias in the distribution of
14 allied mixed-mail costs is increased by the fact that only a small portion of allied
15 tallies are direct:

16
17 The risk that witness Degen's distribution keys for allied
18 pools suffer from the biases described above is magnified
19 by the fact that direct costs are a small minority of the total
20 costs in most allied pools. For example, 10 percent of the
21 costs in the platform MODS pool are direct, while 90
22 percent are mixed and not handling costs. All else being
23 equal, the risk that a 10 percent sample misrepresents the
24 whole is much greater than the risk that a 75 percent
25 sample misrepresents the whole.

26
27 PRC Op. R97-1, para. 3174.

28 The Commission noted, however, that its recommended distribution of
29 allied mixed-mail costs using a key consisting of piece-distribution direct tallies
30 and allied direct tallies was only an interim solution:

31
32 It does so on the understanding that this is an interim
33 solution to the lack of data on the true subclass distribution
34 of mixed mail and not handling costs. The Commission
35 agrees with witness Shew that the assumption that
36 uncounted mixed mail costs have the same subclass
37 distribution as direct mail costs is one that could be tested,
38 if not systemwide, at least by spot sampling.

39
40 PRC Op. R97-1, para. 3178-3179.

1

2 **C. Evidence in This Case**

3 The evidence in Docket No. R2000-1 strongly reinforces the Commission's
4 conclusion in Docket No. R97-1 that allied workload includes "both the
5 distribution support function and the bypass processing function." PRC Op. R97-
6 1, para. 3170. Also, the potential for bias inherent in using only direct tallies to
7 distribute allied labor costs remains unacceptably high because of the small
8 proportion of direct tallies in allied operations. Additionally, the Postal Service
9 apparently dismissed the Commission's suggested test of its assumptions about
10 mixed-mail costs as not worth the trouble.

11 **1. Allied Workload Consists of Both Distribution Support and Bypass**
12 **Processing**

13 The operational analysis of witness Degen (USPS-T-16) and exploratory
14 allied regressions performed by witness Bozzo (USPS-T-15) reinforce the
15 Commission's conclusion that there are multiple components (including both
16 distribution support and bypass processing) of allied workload. First, witness
17 Degen describes the activities that are performed in the platform operation, the
18 largest allied operation:

19

20 The platform operation group covers a range of activities.
21 Workers clocked into the platform are responsible for
22 unloading inbound trucks (with the exception of some local
23 collection runs, which may be unloaded by workers
24 clocked into culling and cancellation), determining where
25 the mail needs to be taken, moving the mail to staging
26 areas in the plant, moving the mail between operations,
27 moving the mail from the final sorting operation to the
28 outbound dock, and loading outbound trucks.

29

30 USPS-T-16 at 50.

31 Some of these activities, such as loading outbound trucks, are driven by
32 bypass workload as well as volumes of non-presorted mail that are sorted in the
33 facility. Others - such as moving the mail between operations and moving the
34 mail from the final sorting operation to the outbound dock - reflect only the
35 distribution support function. Tr. 15/6508-6511 (Degen). Bozzo also

1 supplements Degen's operational analysis: "The use of volumes from sorting
2 operations as allied labor cost drivers has an operational foundation, since one
3 purpose of the allied labor operations is to prepare mail for sorting in the facility,
4 and to prepare mail that has been sorted for shipment to other facilities." USPS-
5 T-15 at 137.

6 Furthermore, in his investigation of the volume variability of allied costs,
7 witness Bozzo used volumes at piece-distribution operations (a proxy for the
8 distribution support function) and destinating volumes (a proxy for combined
9 bypass and non-bypass volume) as his cost drivers. He concluded that, "[i]n
10 general, the results from the models enhanced with these additional data
11 [including destinating volumes] indicated that Dr. Bradley's 'proxy' cost drivers--
12 the volumes from piece sorting operations--still provide the bulk of the
13 explanatory power." USPS-T-15 at 138.

14 **2. The Unacceptably Large Risk of Bias Is Unchanged From Docket No.**
15 **R97-1**

16 The risk of bias, a consequence of the fact that direct costs comprise such
17 a small portion of allied costs, has not declined since Docket No. R97-1. Just as
18 in Docket No. R97-1, Base Year 1998 direct tallies comprise less than ten
19 percent of the total MODS Platform cost of \$1.1 billion and less than 25 percent
20 of the total MODS Allied cost of \$3 billion. Tr. 15/6485 (Degen); USPS-LR-I-184,
21 T17_01.xls. Excluding the "Cancellation & Mail Preparation" operation from this
22 calculation, MODS allied direct costs comprise only 20 percent of total cost.
23 Table 1 shows Base Year 1998 allied direct dollar-weighted tallies as a
24 percentage of all allied dollar-weighted tallies by operation.

Table 1. Base Year 1998 Direct Costs as Percentage of All Costs by Allied Operation (Dollars in Millions)¹

Operation	Direct Cost	Total Cost	Percent Direct
Platform	\$95	\$1,060	8.9%
Air Contract DCS and Incoming	\$8	\$56	14.6%
Manual Sort – Sack Outside	\$31	\$156	19.7%
Bulk Presort	\$3	\$15	22.3%
Pouching	\$119	\$425	28.1%
Opening Unit - Preferred	\$201	\$686	29.3%
Opening Unit – BBM	\$82	\$268	30.7%
Cancellation & Mail Preparation	\$151	\$312	48.5%
Allied Total	\$691	\$2,978	23.2%

¹USPS-LR-I-184, T17_01.XLS.

Because direct costs comprise such a small portion of total allied costs, just as they did in Docket No. R97-1, "[t]he risk that witness Degen's distribution keys for allied pools suffer from the biases described above is [still] magnified by the fact that direct costs are a small minority of the total costs in most allied pools." See PRC Op. R97-1, para. 3174.

3. The Postal Service Performed No New Study of Mixed-Mail Costs

Despite the Commission's conclusion in Docket No. R97-1 that "the assumption that uncounted mixed mail costs have the same subclass distribution as direct mail costs is one that could be tested, if not systemwide, at least by spot sampling," PRC Op. R97-1, para. 3179, the Postal Service has since performed no new study of the issue. Rather, the Postal Service has simply filed as a library reference (USPS-LR-I-115) a never-before-seen data set from 1995 concerning the subclass distribution of mail at platform operations. Because the sample comprises only 719 containers, Tr. 15/6497 (Degen), there are huge sampling errors. For example, the 95-percent confidence interval for the Periodicals share of platform container costs ranges from five percent to 22 percent. For Standard (A), it ranges from approximately 15 percent to 36 percent. Supplemental Response to MPA/USPS-T16-1(c).

1 In response to the same MPA interrogatory, witness Degen stated that
2 without knowing standard errors from the platform study, one cannot make "any
3 statistically meaningful statement[s]" from it. Tr. 15/6481-6483 (Degen).
4 Because the standard errors are so large, one still cannot make "any statistically
5 meaningful statement" based on the study.

6 **4. An Improved Distribution Method for Allied Labor**

7 Based upon the results of witness Bozzo's exploratory analysis, which
8 represents the only quantitative analysis of allied cost causality on the record and
9 indicates that piece-sorting volumes "provide the bulk of the explanatory power,"
10 USPS-T-15 at 138, allied volume-variable costs should be distributed primarily on
11 a key that reflects distribution support (tallies at piece-distribution operations) and
12 to a lesser degree on a key that primarily reflects bypass processing (tallies at
13 allied operations). Witness Stralberg's proposed distribution method does this
14 and is therefore the preferred distribution method.

15 Specifically, to ensure that allied costs are distributed on such a key,
16 witness Stralberg distributed both allied mixed-mail costs and allied not-handling
17 costs using a distribution key based upon tallies from all operations, while
18 distributing costs for allied direct tallies using only allied direct tallies. Where
19 additional IOCS data were available, he used it to further refine his method.

20 Using a broad distribution key (consisting of both allied and piece-
21 distribution direct tallies) for allied mixed-mail costs, but a narrow distribution key
22 (consisting of allied direct and allied mixed-mail tallies) for allied not-handling
23 costs, would not be consistent with Bozzo's analysis because it would distribute
24 the majority of allied costs based on a key dominated by bypass workload.
25 Specifically, allied direct tallies and allied mixed-mail tallies each comprise
26 approximately 23 percent of total allied costs. USPS-LR-I-184, T17_01.XLS.
27 Because allied mixed-mail costs are partially distributed using allied direct tallies,
28 even when using a broad distribution key, the majority of allied handling costs
29 (allied mixed-mail and allied direct costs) are distributed to subclasses based
30 upon the subclass distribution of allied direct tallies. Thus, if allied not-handling
31 costs are distributed based only upon allied direct and mixed-mail tallies, the

1 majority of total allied cost would be distributed to subclasses based upon allied
2 tallies. Such a result would be inappropriate.

3 4 **III. Rural Carrier Costs**

5 In Base Year 1998, rural carrier costs (C/S 10) comprised approximately
6 \$3.7 billion in accrued costs, more than five percent of the total accrued costs of
7 the Postal Service. USPS-LR-I-80, Cs10.xls, worksheet "10.0.1." This section
8 describes how the Postal Service proposed distributing these costs to mail
9 subclasses and proposes an improvement to this method.

10 **A. Postal Service Method**

11 The Postal Service is proposing the same method for distributing rural
12 carrier costs to mail subclasses that it proposed in Docket No. R97-1. I briefly
13 review the relevant portions of the Postal Service's method below.

- 14
15 • Using mail volumes and evaluation factors (time standards) from the
16 National Mail Count (NMC), the Postal Service disaggregates rural
17 carrier costs into attributable costs and institutional costs. Specifically,
18 volume variability was determined by dividing the sum of the average
19 minutes per week per route (average weekly volume multiplied by the
20 evaluation factor) for all route evaluation items that were deemed to
21 vary with volume (e.g., flats delivered) by the average minutes per
22 week per route for all route evaluation items.
- 23
24 • Using the same NMC data, the Postal Service disaggregates rural
25 carrier attributable costs by route evaluation item (e.g., letters
26 delivered, flats delivered). This is done by apportioning total volume-
27 variable cost to variable route evaluation items in proportion to average
28 minutes per week per route. MPA/USPS-51 (filed on May 12, 2000).

- 1 • Because the NMC does not collect mail volumes by subclass, the
2 Postal Service uses the Rural Carrier Cost System (RCCS, also known
3 as 2858R survey data) to distribute these costs to subclasses.
4
5 • Due to definitional differences between the NMC and the RCCS, the
6 Postal Service performs a mail shape adjustment to RCCS data before
7 using the data to distribute costs to subclass:

8
9 The primary source of the discrepancy appears to be small
10 flats, which accidentally are recorded as letters. The
11 discrepancy results from a definition of 'letters' and 'flats'
12 that is unique to rural routes. The shape of rural letters is
13 defined as 5" in height or less. Anything with a greater
14 height is a flat. By the standard Postal definition (in the
15 Domestic Mail Manual), a letter can have a height of up to
16 6 1/8". These pieces of mail are shaped like letters, but in
17 fact are greater than 5" in height. They would be
18 considered letters except by experts in Rural Carrier mail
19 shape definitions.... The National Mail Count is the basis
20 for the carrier's salary.... Therefore, they [carriers] would
21 have an incentive to insure that none of their flats get
22 misclassified as letters.... The 2858R surveys, on the
23 other hand, do not appear to carriers as potentially
24 beneficial or harmful to them.... [For this test, data
25 collectors] are experts in distinguishing the details of the
26 different subclasses, so there is no reason to believe they
27 are making any mistakes in this area. The shape of mail,
28 on the other hand, is different for rural routes than for city
29 routes. The shape is not the main focus of this test, and
30 furthermore, is inconsistent with the shape definition for
31 city routes. Therefore, it seems reasonable to conclude
32 that some pieces...are being recorded as letters instead of
33 flats.
34

35 Docket No. R90-1, USPS-T-13, Appendix F at F-26 - F-28.

36
37 The mail shape adjustment ensures that RCCS flats as a percentage
38 of RCCS flats and letters (the RCCS flats percentage) is equal to NMC
39 flats as a percentage of NMC flats and letters (the NMC flats
40 percentage).
41

1 In Docket No. R97-1, all parties agreed that a mail shape adjustment was
2 required because of the definitional differences between the NMC and RCCS.
3 The only question upon which parties disagreed was whether annual RCCS data
4 or RCCS data from the four-week period during which the NMC is performed
5 should be used to determine the magnitude of the mail shape adjustment. In that
6 case, the Commission accepted the Postal Service's mail shape adjustment
7 using only four weeks of data from the RCCS only as an "interim solution" and
8 because the Postal Service's "distribution of costs falls between the other
9 competing analysis." PRC Op. R97-1, para. 3358. The following section of my
10 testimony explains why, based upon further examination of RCCS data, it is
11 appropriate to use annual RCCS data to perform the mail shape adjustment.

12 Despite presenting Base Year rural carrier costs that are based upon a
13 mail shape adjustment that used only two weeks of RCCS data, Exhibit USPS-
14 11A, the Postal Service concedes that using only two weeks of RCCS data was a
15 mistake, stating in response to an interrogatory that identified a discrepancy
16 between FY 1996 and FY 1998 RCCS data: "For FY 1996, four (4) weeks of
17 2858R Survey data was used, whereas for FY 1998, only two (2) weeks of
18 2858R Survey data was used. The FY 1998 data are being revised to reflect four
19 (4) weeks of 2858R data." Tr. 21/8913.⁶

20 **B. Analysis of Mail Shape Adjustment**

21 It is appropriate to use annual RCCS data to develop the mail shape
22 adjustment because annual RCCS data are much more reliable than RCCS data
23 for only the four-week period during the NMC. Furthermore, because the NMC is
24 performed during September, a month that the Postal Service views as annually
25 representative, MPA/USPS-51, there is no drawback to using annual RCCS data
26 to perform the adjustment.

27 RCCS was "designed to produce precise annual estimates, with a sample
28 size of over 6,000 tests," not to produce volume estimates for any particular four-
29 week period. Tr. 21/8913. Because of this, data from the four-week period

⁶The Postal Service provided Base Year 1998 rural carrier costs using four weeks of RCCS data to determine the mail shape adjustment in response to the same interrogatory. Tr. 21/8915.

1 during the NMC contain much higher sampling error than annual RCCS data.
2 See Tr. 21/8913; MPA/USPS-49.⁷ For this reason and because the Postal
3 Service views volumes from the NMC period as “constituting representative
4 estimates of average weekly volumes over the entire FY 1998 period,”
5 MPA/USPS-51, the Postal Service has always used annual RCCS data to
6 distribute rural carrier costs to mail subclasses. See MPA/USPS-50-51.

7 Using RCCS data for the four-week period of the NMC (rather than data
8 for the entire year) reduces the number of RCCS tests from approximately 6,000
9 to 333, MPA/USPS-49, or nearly 95 percent.⁸ This reduction in sample size
10 increases the coefficient of variation on the RCCS flats percentage by a factor of
11 four, from approximately 0.6 percent to 2.4 percent. MPA/USPS-49. As a result,
12 the 95-percent confidence interval around the RCCS flats percentage resulting
13 from using only four weeks of data ranges from 32.5 to 35.7 percent. While this
14 range does not have a large impact on the cost attributed to mail classes with a
15 mix of flats and letters, it has a huge impact on the cost attributed to Periodicals
16 because flats comprise more than ninety percent of Periodicals volume.
17 Specifically, every percentage point difference in the RCCS flats percentage has
18 a \$5-million impact on Periodicals attributable costs.⁹

19 Because of the large impact of this range of uncertainty on rural carrier
20 cost attribution, it is far preferable to use the full RCCS sample to perform the
21 mail shape adjustment. Moving from four weeks of RCCS data to the full annual
22 sample reduces the size of the 95-percent confidence interval from 3.2
23 percentage points to 0.8 percentage points. Attachment A provides Base Year
24 1998 rural carrier costs by subclass based upon a mail shape adjustment that
25 employs annual RCCS data.

⁷Note that these issues do not affect NMC data because the NMC is a census of all rural routes.

⁸The sample size is smaller during the four-week period of the NMC period than for other four-week periods precisely because it is the NMC period. More than 25 percent of RCCS tests during the NMC were cancelled. MPA/USPS-49.

⁹This was calculated by dividing the \$8.9 million base year cost difference specified in MPA/USPS-1(b) by the 1.85 percentage point difference between the two-week and four-week RCCS flats percentage. Tr. 21/8913-8915; LR-I-80, Cs10.xls, worksheet "10.0.3 P1."

1 **IV. Bundle Preparation and Handling**

2 The Postal Service has long hypothesized that bundle breakage is a
3 significant contributor to the absolute level of the cost for processing flats.¹⁰ In
4 late 1998, the Periodicals Operations Review Team's (Team's) observations lent
5 support to this hypothesis and the Team made several recommendations
6 regarding how to reduce both bundle breakage and the associated costs for
7 processing flats. Specifically, the Team's report stated:

8
9 Flats bundles are at risk of breaking during bundle sorting,
10 especially when dumped on the automated feed systems
11 of SPBS machines. Bundles that travel in sacks also incur
12 substantial breakage during sack handling operations,
13 although the sack preserves the presort level of the sack
14 itself. There are a number of possible remedies that
15 together could lead to substantial cost reductions,
16 including better bundle strapping, use of pallets rather than
17 sacks, improved bundle sorting methods, alternatives to
18 today's SPBS feed systems, and better efforts at salvaging
19 partially broken bundles.
20

21 USPS-LR-I-193, Report of the Periodicals Operations Review Team (Team
22 Report) at 24.

23 This section of my testimony quantifies the size of the bundle breakage
24 problem, summarizes the Team's recommendations, describes Postal Service
25 and Industry efforts in this area, and estimates the Test Year cost savings that
26 will result from reduced bundle breakage and improved bundle recovery
27 methods. My analysis concludes that Postal Service and Industry efforts should
28 reduce Test Year costs for processing Periodicals flats by \$21 million and Test
29 Year costs for processing Standard (A) Regular flats by \$58 million.
30

¹⁰Note that while bundle breakage has contributed to the absolute level of flats processing cost, no witness has provided quantitative evidence that bundle breakage has contributed to the negative trend in Periodicals costs over the past decade. In fact, since palletization has increased significantly, there is reason to believe that bundle breakage has decreased over this decade. Furthermore, witness Unger noted on cross-examination that he thought the bundle breakage problem lessened over the period from 1993 to 1999. Tr. 21/8231.

1 **A. Periodicals Operations Review Team**

2 Witness Cohen testifies that Postal Service and Periodical Industry
3 representatives visited more than a dozen facilities from September to December
4 1998 to investigate the causes of, and seek solutions to, continuing increases in
5 costs attributed to Periodicals mail. These facilities collectively process and
6 deliver approximately 14 percent of all flats mail processed in the United States.
7 Team Report at 3.

8 During their visits to these mail processing facilities, the Team observed
9 operations where bundle breakage was reported to be occurring and noted that
10 bundle breakage “appears to increase periodicals cost significantly.” Team
11 Report at 24. As a result of its observations, the Team developed several
12 specific recommendations regarding bundle preparation and material handling,
13 which will, when implemented, reduce both the frequency with which bundle
14 breakage occurs and the costs incurred when bundles do break. Below, I
15 summarize the team’s major recommendations.

16
17 **1. Improve bundle preparation methods.** “Many mailers may not be
18 aware that there is a bundle breakage problem. We recommend that
19 postal facilities identify the mailers whose bundles are causing the most
20 breakage and communicate to those mailers the need for improved
21 preparation.” Team Report at 25. “Mailers can help by improving their
22 bundle strapping.” Team Report at 25.

23
24 **2. Move bundles from sacks to pallets.** “Mailers can help by...entering
25 bundles, to the extent feasible, on pallets instead of in sacks. Sacked
26 mail, besides incurring high sack handling costs, sustains substantial
27 breakage during the sack sorting operations. Pallets with finer levels of
28 presort will also reduce the probability of breakage by reducing the
29 number of bundle sorts needed.” Team Report at 25.

30

1 **3. Improve USPS processing.** “We believe that the Postal Service should
2 carefully evaluate the cost and benefits of the current SPBS system,
3 including dumping and bundle breakage. Besides occupying large
4 amounts of valuable space in postal facilities, these machines appear to
5 cause considerable breakage of palletized bundles that under more
6 manual systems incur little or no breakage, based on our observations at
7 facilities not equipped with automatic dumpers. The main problem is with
8 the pallet dumping and subsequent bundle travel on highly congested feed
9 belts. We recommend that USPS rapidly evaluate the extent and severity
10 of bundle breakage to assess whether changes need to be made to the
11 dumping strategy. Some facilities have developed better techniques than
12 others for minimizing SPBS bundle breakage, e.g., by carefully controlling
13 the bundle volume dumped on the feed belt at any one time. We strongly
14 recommend development and sharing of best practices in this area.”

15 Team Report at 25.

16
17 **4. Improve bundle recovery methods.** “The cost impact of SPBS bundle
18 breakage may be magnified, because SPBS employees choose to key
19 individual pieces in such bundles rather than to salvage partially broken
20 bundles. The cost implications of such practices should be investigated
21 closely, and quickly.” Team Report at 26.

22 In addition to these specific recommendations, the team encouraged
23 further joint USPS/Industry exploration of the bundle breakage issue and
24 specifically supported the MTAC Package Integrity Work Group, which is
25 exploring selected issues identified by the Team Report.

26
27 We recognize the need for a further joint industry/USPS
28 effort to resolve the many unanswered questions regarding
29 the best way to prepare flats bundles for the rough
30 handling they receive in postal facilities, and what types of
31 handling cause the most damage...We recognize an
32 MTAC study on this issue is underway, and we support it
33 as part of our team effort.

34
35 Team Report at 25.

1

2 **B. Magnitude of the Problem**

3 Consistent with the Team finding that "improved bundle preparation by
4 mailers and improved materials handling by the Postal Service will reduce bundle
5 breakage--which appears to increase Periodicals costs significantly," Team
6 Report at 24, the MTAC Package Integrity Work Group found that bundle
7 breakage is a problem for Periodicals and Standard (A) flats.

8 In late 1999, the MTAC Package Integrity Work Group performed a study
9 ("MTAC study") of bundle breakage.¹¹ This study found that many bundles in
10 sacks were very damaged at the first step in the USPS processing of individual
11 mailer-produced packages: approximately 17.7 percent of the bundles were
12 broken. It also found a high potential for further breakage at downstream
13 operations based on its additional finding that another 15.3 percent of the
14 bundles were suspect (i.e., that breakage was likely because either the bundle
15 wasn't shrinkwrapped and there was only one band or strap holding the bundle
16 together or the bundle was shrinkwrapped and one or more of the sides of the
17 bundle was at least half open). USPS-LR-I-297.¹²

18 The MTAC study found that there was also a bundle-breakage problem for
19 bundles on pallets (although a much smaller one than for sacked mail):
20 approximately 1.1 percent of bundles on pallets were broken at the first step in
21 the USPS processing of individual mailer-produced packages. Another 8.0
22 percent of these bundles were suspect. Id.

23 **C. Joint Postal Service/Industry Efforts**

24 As discussed by the Team, the cost of bundle breakage can be reduced in
25 four ways: (1) improving bundle preparation methods; (2) moving bundles from
26 sacks to pallets; (3) improving USPS processing; and (4) improving bundle
27 recovery methods. Not only can the cost of bundle breakage be reduced, the
28 USPS and Industry are working diligently to do so. As stated by witness Unger,

¹¹The MTAC study collected data from six sites (2 BMCs and 4 P&DCs). The MTAC data collection team spent three days at each of the sites. The Postal Service filed the MTAC study database as USPS-LR-I-297.

¹²Calculated from totals contained in USPS-LR-I-297, Package Integrity.mdb.

1 "I am confident that the measures designed to reduce the frequency of bundle
2 breakage will meet with success. I am seeing increased emphasis on mail
3 preparation changes, consideration of equipment modifications, and changes in
4 work methods to reduce bundle breakage and recover broken bundles." Tr.
5 21/8169 (Unger). This section discusses those efforts in greater detail.

6
7 **1. Improve bundle preparation methods.** MPA and the MTAC Package
8 Integrity Work Group have begun mailer education programs regarding
9 bundle preparation. Last month, I participated in a panel on package integrity
10 at the Graphic Communications Association's (GCA) Spring Conference.
11 Since then, I have had many discussions with mailers and have received
12 several requests for the data collected by the work group. In general, mailers
13 were previously unaware of this issue, but having been made aware of it, are
14 very concerned and motivated to solve the problem. In fact, as discussed by
15 witness Cohen, several mailers are planning to increase their shrinkwrapping
16 of bundles based on the MTAC study's finding that shrinkwrapped bundles
17 maintain their integrity better than bundles with two straps. USPS-LR-I-297.¹³

18
19 Further, the MTAC Work Group has developed a video to raise mailer
20 awareness of the impact of poor bundle integrity on costs and service and
21 also to focus on best practices to improve bundle integrity. Copies of the
22 video will be widely available to mailers from business mail entry units and
23 USPS sales representatives, and will be shown at Postal Customer Councils
24 (PCCs), focus groups, and Postal Forums. The video has already been
25 shown at the Postal Forum in Nashville, the GCA Spring Conference, several
26 focus group meetings, and mailers have requested it to use as a training tool
27 for their employees to raise awareness of the importance of bundle integrity
28 and to focus on improving bundling practices.

29

¹³According to the MTAC study, approximately 13 percent of shrinkwrapped bundles of glossy flats in sacks break as compared to 23 percent breakage for bundles of glossy flats with two straps.

1 Also, the MTAC Package Integrity Work Group is holding a joint Postal
2 Service/Industry conference on May 31, 2000, to provide an update on the
3 progress of the group and to solicit feedback and ideas about how to improve
4 mailer packaging of Periodicals and Standard Mail (A) flats to reduce bundle
5 breakage. Participants at the meeting expect to identify specific
6 countermeasures that mailers will implement to reduce bundle breakage
7 significantly. Attachment B contains the agenda for this meeting.

8
9 Finally, the Postal Service is in the process of writing articles for the Mailers
10 Companion on the issue and is working with Business Mail Acceptance staff
11 to develop more objective standards for bundle preparation and to ensure that
12 the preparation standards are properly administered by acceptance
13 personnel.

14
15 **2. Move bundles from sacks to pallets.** In this case, witness Stralberg
16 proposes a discount for 5-digit pallets that are dropshipped to destination
17 SCFs and delivery units.¹⁴ This will have the benefit of increasing the presort
18 level of pallets and will provide an incentive for co-palletization.

19
20 Furthermore, the Federal Register notice issued by the Postal Service on
21 February 29 proposes changes that will reduce the amount of flats in sacks.
22 65 Fed. Reg. 10735-59 (February 29, 2000). In particular, allowing mailers
23 to combine packages of barcoded and nonbarcoded flats in containers will
24 reduce residual volumes in sacks. The proposed changes will also have the
25 benefit of increasing the number of bundles per sack, which will also reduce
26 breakage. USPS-LR-I-297.¹⁵

27

¹⁴Also, I am proposing an increase in dropship discounts for Standard (A) mail. As PostCom-T-2 witness Schick indicates, this should also lead to increased palletization.

¹⁵According to the MTAC study, 23 percent of bundles in sacks containing five or less bundles broke. Only 16 percent of bundles in sacks containing 6-to-15 bundles broke.

1 Finally, based upon the findings of the MTAC Package Integrity Work Group
2 and the efforts of the MTAC Presort Optimization Work Group, mailers are
3 reexamining their presort methods to determine ways to reduce residual
4 volumes that are mailed in sacks. For example, since some Postal Service
5 facilities process SCF pallets and 3-Digit pallets in the same operation,
6 mailers are analyzing whether preparing SCF pallets (rather than 3-digit
7 pallets at these facilities) would reduce residual volumes in sacks without
8 affecting service.

9
10 **3. Improve USPS processing.** The USPS is currently developing best
11 practices related to bundle handling. It plans to implement these practices
12 nationwide. For example, the Portland, Oregon Plant has been focusing on
13 the costs and service implications of bundle breakage and identifying steps to
14 improve bundle recovery and processing by the Postal Service and to work
15 with mailers to improve bundle preparation. Postal Service employees at that
16 site have changed the procedure they use to recover broken and suspect
17 bundles to reduce individual piece handlings of flats on the SPBS. They
18 presented their best practices at the National Quality Meeting last year so that
19 other plants could adopt their recommendations. Further, as discussed by
20 witness O'Tormey, the Postal Service's Engineering, Research, and
21 Development organization is focused on improving USPS operations where
22 bundle breakage occurs:

23
24 There is an effort in the Postal Service's Engineering,
25 Research, and Development organization to identify how
26 the equipment used to dump containers of bundles might
27 be modified to reduce bundle breakage. Several
28 modifications have been implemented...Finally, the
29 emphasis on bundle recovery has focused attention at the
30 sack opening/dumping operation to minimize bundle
31 breakage.

32
33 MPA/USPS-ST42-7.
34

1 **4. Improve the methods the Postal Service uses to recover bundles.** The
2 Postal Service is committed to improving its bundle recovery methods.
3 Towards this goal, on December 30, 1999, witness O'Tormey issued
4 instructions to the field that specified expectations on how the field should
5 recover bundles.

6
7 Clearly, the most economical method of package breakage
8 recovery is to recover the broken packages as originally
9 secured by the mailers at induction and re-band them
10 using rubber bands and/or strapping machines and re-
11 induct them into the system. This is the preferred method
12 and should be utilized whenever the package integrity is
13 sufficient to identify the contents because it retains the
14 correct presort level

15
16 If the packages have broken and lost their integrity, they
17 should be recovered and, whenever possible faced and
18 put directly into the proper container...for further
19 processing on the appropriate Flat Sorter Machine (FSM)
20 sort program.

21
22 The least economical method is incurred when the broken
23 package is keyed as individual pieces on the Small Parcel
24 Bundle Sorters (SPBS). Productivities are considerably
25 lower on the SPBS as compared to the FSM. Not only is
26 the process a great deal more expensive, it also inflates
27 SPBS volumes. At no time should this method be used as
28 a processing option.

29
30 Tr. 5/1707 (Kingsley).

31 It appears that the field has received the message. Members of the
32 Periodicals Operations Review Team who also participated in the MTAC
33 Package Integrity Work Group site visits, and USPS personnel suggest
34 that Postal Service efforts to improve bundle recovery methods are
35 already paying off. In particular, witness Stralberg, who was a member of
36 the Periodicals Operations Review Team and attended two of the MTAC
37 Package Integrity Work Group site visits, noticed that many fewer pieces
38 were being keyed during the MTAC study than during the Periodicals
39 Operations Review Team site visits. Also, as Witness Unger indicated, "I
40 am [already] seeing increased emphasis...in work methods to reduce

1 bundle breakage and recover broken bundles”(emphasis added). Tr.
2 21/8169 (Unger).

3
4 **D. Test Year Cost Savings**

5 To estimate the Test Year cost savings that will result from reductions in
6 bundle breakage and improvements in bundle recovery methods, I used the flats
7 cost model that was filed as MPA-LR-2 to model unit Test Year mail processing
8 costs for Periodicals and Standard (A) flats under two scenarios:

- 9
- 10 • **"Before" Scenario** - For this scenario, I assumed that bundle breakage rates
11 in the Test Year will be the same as estimated in the MTAC study and that 25
12 percent of the pieces from bundles that broke on a SPBS would be keyed as
13 individual pieces on the SPBS.
 - 14
 - 15 • **"After" Scenario** – This scenario quantifies the effect of USPS and Industry
16 efforts to reduce the bundle breakage problem and improve bundle recovery
17 methods. Based upon discussions with printers, Postal Service and Industry
18 members of the MTAC Package Integrity Work Group, and witnesses Cohen
19 and Stralberg, I believe that the efforts described above will reduce the
20 proportion of bundles that break by about fifty percent, and that the practice of
21 keying pieces on the SPBS will be nearly eliminated by the Test Year.

22

23 To determine the total Test Year cost savings by subclass, I multiplied
24 flats volumes by the modeled unit cost difference between the "Before" and
25 "After" scenarios. Table 3 summarizes Test Year cost savings by subclass.
26 Given the significant effort that the Postal Service, MTAC, and Industry are
27 making in this area, I believe that these cost savings are reasonable and
28 achievable.

1
2

Table 3. Test Year Cost Savings by Subclass

Class/Subclass	"Before" Unit Cost (in Cents)	"After" Unit Cost (in Cents)	Volume (in Billions)	Savings (in Millions)
	[1]	[2]	[3]	[4]
Periodicals Regular	5.754	5.514	7.4	\$17.6
Periodicals Nonprofit	4.173	4.007	2.1	\$3.4
Standard (A) Regular	7.556	7.196	13.1	\$47.0
Standard (A) Nonprofit	8.225	7.587	1.7	\$10.6

[1] "Before" Unit Cost represents the Weighted Average Modeled Unit Vol Var Cost as found on worksheet "Sc Costs," G54, using the aforementioned "Before" assumptions, in MPA-LR-2.

[2] "After" Unit Cost represents the Weighted Average Modeled Unit Vol Var Cost as found on worksheet "Sc Costs," G54, using the aforementioned "After" assumptions, in MPA-LR-2.

[3] USPS-LR-I-90, R2000_1_Flats Cost Model_USPS Final.xls, "Vols-Std (A) Reg," "Vols-Std (A) Non"; USPS-LR-167, oc1.xls, worksheets "RR TYAR" and "NP TYAR."

[4] = ([1]-[2])*[3]

**Attachment A. Base Year 1998 Rural Carrier (C/S 10) Costs
(In Thousands of Dollars)**

LINE NO	CLASS, SUBCLASS, OR SPECIAL SERVICE	Proposal (Mail Shape Adjustment)		Difference
		USPS Proposal (Two Weeks RCCS Data)	MPA Proposal (Annual RCCS Data)	
		[1]	[2]	
1	FIRST-CLASS MAIL:			
2	SINGLE-PIECE LETTERS	288,432	301,541	13,109
3	PRESORT LETTERS	222,696	243,061	20,365
4	TOTAL LETTERS	511,128	544,602	33,474
5	SINGLE-PIECE CARDS	16,411	17,272	861
6	PRESORT CARDS	10,164	10,756	592
7	TOTAL CARDS	26,575	28,028	1,453
8	TOTAL FIRST-CLASS	537,703	572,630	34,927
9	PRIORITY MAIL	24,079	23,573	(506)
10	EXPRESS MAIL	6,133	6,133	-
11	MAILGRAMS	167	176	9
12	PERIODICALS:			
13	IN-COUNTY	15,355	14,152	(1,203)
14	OUTSIDE COUNTY:			
15	REGULAR	119,587	110,216	(9,371)
16	NON-PROFIT	35,517	32,734	(2,783)
17	CLASSROOM	1,010	931	(79)
18	TOTAL PERIODICALS	171,469	158,033	(13,436)
19	STANDARD MAIL (A):			
20	SINGLE-PIECE RATE	1,072	1,051	(21)
21	COMMERCIAL STANDARD:			
22	ENHANCED CARR RTE	326,363	313,122	(13,241)
23	REGULAR	350,762	342,306	(8,456)
24	TOTAL COMMERCIAL	677,125	655,428	(21,697)
25	AGGREGATE NONPROFIT:			
26	NONPROF ENH CARR RTE	13,918	13,668	(250)
27	NONPROFIT	69,221	70,380	1,159
28	TOTAL AGGREG NONPROFIT	83,139	84,048	909
29	TOTAL STANDARD (A)	761,336	740,527	(20,809)
30	STANDARD MAIL (B):			
31	PARCELS ZONE RATE	11,511	11,467	(44)
32	BOUND PRINTED MATTER	11,761	11,553	(208)
33	SPECIAL STANDARD	4,192	4,148	(44)
34	LIBRARY MAIL	805	799	(6)
35	TOTAL STANDARD (B)	28,269	27,967	(302)
36	US POSTAL SERVICE	1,336	1,384	48
37	FREE MAIL	734	725	(9)
38	INTERNATIONAL MAIL	2,786	2,863	77
39	TOTAL MAIL	1,534,012	1,534,011	(1)
40	SPECIAL SERVICES:			
41	REGISTRY	2,588	2,588	-
42	CERTIFIED	62,423	62,423	-
43	INSURANCE	4,870	4,870	-
44	COD	2,872	2,872	-
45	SPECIAL DELIVERY	-	-	-
46	MONEY ORDERS	1,087	1,087	-
47	STAMPED ENVELOPES	-	-	-
48	SPECIAL HANDLING	-	-	-
49	POST OFFICE BOX	-	-	-
50	OTHER	22	22	-
51	TOTAL SPECIAL SERVICES	73,862	73,862	-
52	TOTAL VOLUME VARIABLE	1,607,874	1,607,873	(1)

[1] USPS-LR-I-80, Cs10.xls, worksheet "Outputs to CRA"

[2] USPS-LR-I-335, cs10out.xls, worksheet "Outputs to CRA"

1 **Attachment B.**

2 **Package Integrity Work Group Meeting Agenda**

3
4 **Date:** May 31, 2000

5
6 **Location:** Quad Graphics, West Allis, WI

7
8 **Time:** 10 AM – 4 PM

9
10 **Purpose of meeting:** To provide an update on the progress of the group to date
11 and solicit feedback and ideas about how to move forward to improve mailer
12 packaging of Periodicals and Standard Mail (A) flats to reduce bundle breakage.

13
14 **Expected outcome:**

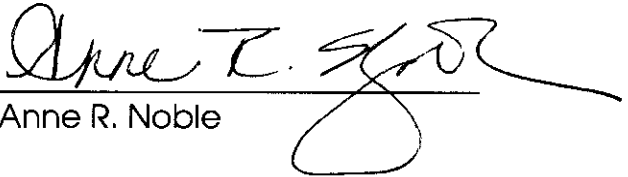
- 15 • Buy-in from mailers regarding suggested countermeasures
- 16 • A plan to test countermeasures and identification of parties that will
- 17 participate in testing
- 18 • List of volunteers for work group to implement countermeasures

19
20 **Tentative agenda:**

- 21 ✓ Show new video produced to raise awareness of bundle breakage problem
 - 22 ✓ Brief overview of the QI Story process – Bill Goodwin, USPS
 - 23 ✓ Overview of data collected
 - 24 ✓ Portland, OR QI Story – Bundle Breakage
 - 25 ✓ Engineering report on equipment modifications and future plans to improve
 - 26 USPS processing to reduce bundle breakage- Jeff Fox, USPS
 - 27 ✓ Review current DMM standards for packaging of flat-size mail - Cheryl Beller,
 - 28 USPS
 - 29 ✓ Industry input for ideas and future testing
 - 30 ✓ Best practices
 - 31 ✓ Barriers
 - 32 ✓ Discuss feedback mechanism for reporting bundle integrity problems
 - 33 ✓ Industry/USPS involvement
 - 34 ✓ Obstacles to overcome
 - 35 ✓ How to ID the “preparer of the mail”
 - 36 ✓ Who to contact – mail preparer and mail owner?
 - 37 ✓ Should work group be formed?
 - 38 ✓ Mail acceptance issues
 - 39 ✓ Objective standards to enforce
 - 40 ✓ How to identify bundle integrity problems
 - 41 ✓ Steps to follow when problems are identified at acceptance
 - 42 ✓ Discuss development of mailer tools to help resolve the problem
- 43

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document upon all participants of record in this proceeding in accordance with the Commission's Rules of Practice.


Anne R. Noble

Washington, D.C.
May 22, 2000