

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

COMPLAINT OF TIME WARNER INC., ET AL.  
CONCERNING PERIODICALS RATES

Docket No. C2004-1

RESPONSE OF THE UNITED STATES POSTAL SERVICE  
WITNESS MILLER TO INTERROGATORIES OF TIME WARNER INC. et al.,  
(TW et al./USPS-RT1-1, 3(c), 4-10)

The United States Postal Service hereby files witness Miller's responses to the following interrogatories of Time Warner Inc. et al., filed on September 14, 2004:

TW et al./USPS-RT1-1, 3(c), 4-10.

Each interrogatory is stated verbatim and is followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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/s/ \_\_\_\_\_  
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**RESPONSE OF UNITED STATES POSTAL SERVICE WITNESS MILLER TO  
INTERROGATORIES OF TIME WARNER INC. ET AL.**

**TW ET AL./USPS-RT1-1** Please refer to page 4, lines 24-36 of your testimony, where you reproduce one passage from Mitchell's and two from Stralberg's testimony.

- a. Has any national study been performed to determine the productivity rate (pieces per workhour) for manual flats sorting performed in associate offices, stations and branches? If yes, please describe any such study and the results obtained.
- b. Has any local or regional study been performed to determine the productivity rate (pieces per workhour) for manual flats sorting performed in associate offices, stations and branches? If yes, please describe any such study and the results obtained.
- c. Please confirm that the flats mail flow model presented in your R2001-1 testimony (USPS-T-24) and in USPS LR-J-61 assumed an hourly productivity rate of 422 flats per hour, before volume-variability adjustment, for manual incoming flats secondary distribution, which includes distribution performed at associate offices, stations and branches. If you cannot confirm, please explain fully and state the assumption that you did use in preparing that testimony and the corresponding mail flow model.
- d. Please assume that you were to present today a testimony similar to USPS-T-24 in R2001-1 and that you could use all information currently available to the Postal Service. What number would you use for manual incoming flats secondary distribution productivity? Please explain your answer fully and describe the data sources you would rely on. If you believe that you would split the manual incoming secondary flats distribution into two or more operations with different productivity rates, or use different rates for certain types of flats, then please describe your thoughts on these matters.
- e. Please confirm that the corresponding flats mail flow models presented by witness Yacobucci (USPS-T-25) in R2000-1 and witness Seckar (USPS-T-26) in R97-1 assumed a much higher manual incoming secondary distribution productivity in non-FSM facilities, including associate offices, stations and branches. Please explain why you decided to change that approach and simply use a single rate in preparing your R2001-1 testimony.
- f. Do you believe it is reasonable to assume that in today's environment flats that receive manual incoming secondary sort, even those that are sorted at associate offices, stations and branches, tend to be harder to sort than the average flat, causing a low average manual productivity rate? If so, please explain why.

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**RESPONSE TO TW ET AL./USPS-RT1-1 (CONT.):**

My purpose in writing the referenced passage was not to criticize the specific productivity mentioned. Rather, it was to show that changes to the cost model inputs can lead to significantly different results.

**a.b.** I am not aware of any such studies having been conducted.

**c.** I can confirm that the 422 pieces per hour figure was included in the Periodicals cost models found in Docket No. R2001-1, USPS LR-J-61, page 60. This figure, however, was a MODS-derived figure. It therefore reflects the aggregate productivity for manual incoming secondary operations performed at MODS sites.

**d.** I would use an updated figure similar to that found in Docket No. R2001-1, USPS LR-J-61, page 60.

**e.** Confirmed. Witness Seckar relied on a manual incoming secondary productivity figure of 520 pieces per hour for "FSM Zones" and a manual incoming secondary productivity figure of 944 pieces per hour for "Non-FSM Zones." Docket No. R97-1, USPS LR-H-134, Section 8, Page 13. These figures can be traced to a table in USPS LR-H-113, page 102. The table itself actually uses the following labels: "Manual Flats - No FSM" and "Manual Flats - With FSM" and lists the MODS operation number 175-179 for each.

Witness Yacobucci relied on a manual incoming secondary productivity of 457 pieces per hour for "FSM Zones" and 846 pieces per hour for "Non-FSM Zones." Docket No. R2000-1, USPS LR-I-90, page 32. In his citations, he lists USPS LR-I-107 as the source for both figures. In looking at the productivity table found in USPS LR-I-107, the only one of the two figures cited by witness Yacobucci and shown in the table is the 456 pieces per hour figure (it is assumed the small difference is due to rounding error, or an entry error). This figure represents a "Manual Flat -- Incoming Secondary" productivity. It is unclear whether this figure represents the aggregate manual incoming secondary productivity for all MODS sites, or whether it represents the aggregate manual incoming secondary productivity for MODS sites with FSMs.

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**RESPONSE TO TW ET AL./USPS-RT1-1 (CONT.):**

In preparing for Docket No. R2001-1, I made the decision to use an aggregate MODS manual incoming secondary productivity for both MODS and non-MODS sites for the following three reasons:

(1) I was not aware of any study which indicated that there were distinct differences between flats manual incoming secondary operations performed at plants and the same operations performed at delivery units. To the extent that there was a study conducted at one time, I was unable to locate the results.

(2) The Docket No. R97-1 figures actually represented the manual incoming secondary productivities at MODS FSM facilities and MODS non-FSM facilities. In the latter case, this did not correspond to a manual productivity for "associate offices, stations, or branches." Most MODS sites are fairly large facilities. For example, I was recently at the Terre Haute Processing and Distribution Facility (P&DF) in Terre Haute, IN. It did not have any FSMs, but it was also not an "associate office, station, or branch."

(3) In my field experiences, the decision as to whether manual incoming secondary operations were established at plants or the delivery unit was typically based on the presence of "scheme" skills at the plant. For some zones in which there was a shortage of scheme skills at the plant, the mail would have been processed at the delivery unit, even if a FSM incoming secondary operation was performed for that delivery unit at the plant. Conversely, there were some instances where the mail for a given station was processed manually at the plant, even though the plant did not attempt to process the mail for that same station on the FSM.

f. In Docket No. R2001-1, I used the MODS manual incoming secondary productivity as a proxy for the same operation in non-MODS sites, absent any information from studies which might have indicated otherwise. I would not expect the productivity values for all manual operations to be the same. I would think the volume processed in a given operation, the requirement that the clerk have scheme skills, the specific cases being used, the layout of the workstation, and the number of separations being performed in a given operation could all affect productivity.

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**TW ET AL./USPS-RT1-2** For each MODS operation for which volume and workhour data are recorded under the MODS system, please provide, in Excel spreadsheet form, the total number of FHP, TPH and workhours for FY2003. If available, please provide similar information for FY2004, or alternatively any available year-to-date FY2004 information.

**RESPONSE:**

Redirected to the Postal Service.

**RESPONSE OF UNITED STATES POSTAL SERVICE WITNESS MILLER TO  
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**TW ET AL./USPS-RT1-3** At pages 8-9 of your testimony, you state that LR-I-332 “was not created to support a grid rate analysis,” and you attempt to link the development of LR-I-332 to the Postal Service’s response, in R2000-1, to POIR 4, filed on February 25, 2000, and to PRC Order No. 1289, issued on March 28, 2000.

- a. According to the Postal Service’s records, on what date was Christensen Associates authorized to start development of the model that eventually was filed as LR-I-332?
- b. According to the Postal Service’s records, was there a meeting on February 10, 2000 at USPS headquarters, between representatives of the Postal Service, Christensen Associates, and the Periodicals industry to discuss the development of the model that eventually was filed as LR-I-332?
- c. Were you personally present at the meeting referred to above.

**RESPONSE:**

- a. Redirected to the Postal Service.
- b. Redirected to the Postal Service.
- c. No.

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**TW ET AL./USPS-RT1-4** Please refer to the chart at page 3 of your testimony.

- a. Please confirm that the cost data used in the chart are based on the Postal Service's costing methodology rather than PRC methodology. If not confirmed, please explain.
- b. Please state which version of the Postal Service's costing methodology is used for each year. For example, is FY96 represented by the FY96 CRA data using the pre-R97-1 costing methodology, or is it based on what was introduced as BY96 in the R97-1 rate case?
- c. Please provide a similar chart, using only mail processing costs rather than total costs.
- d. Please provide a similar chart, using only purchased transportation (cost segment 14) costs rather than total costs.

**RESPONSE:**

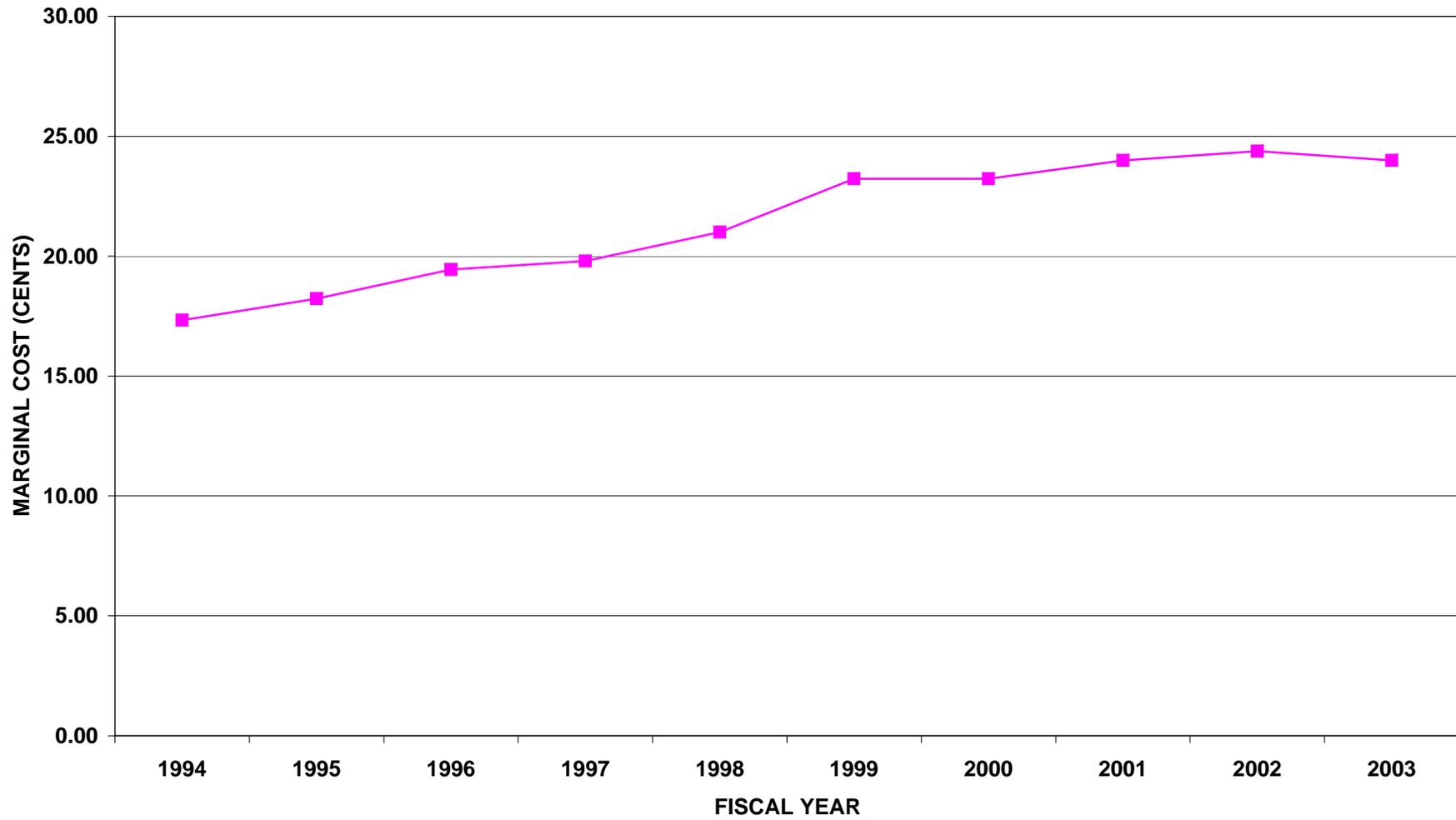
**a.** Confirmed.

**b.** The data were taken from the official Postal Service Fiscal Year versions of the CRA and Cost Segments/Components reports. The costing methodology for each Fiscal Year is described in the corresponding "Summary Description of USPS Development of Costs By Segments and Components" reports and CRA notations.

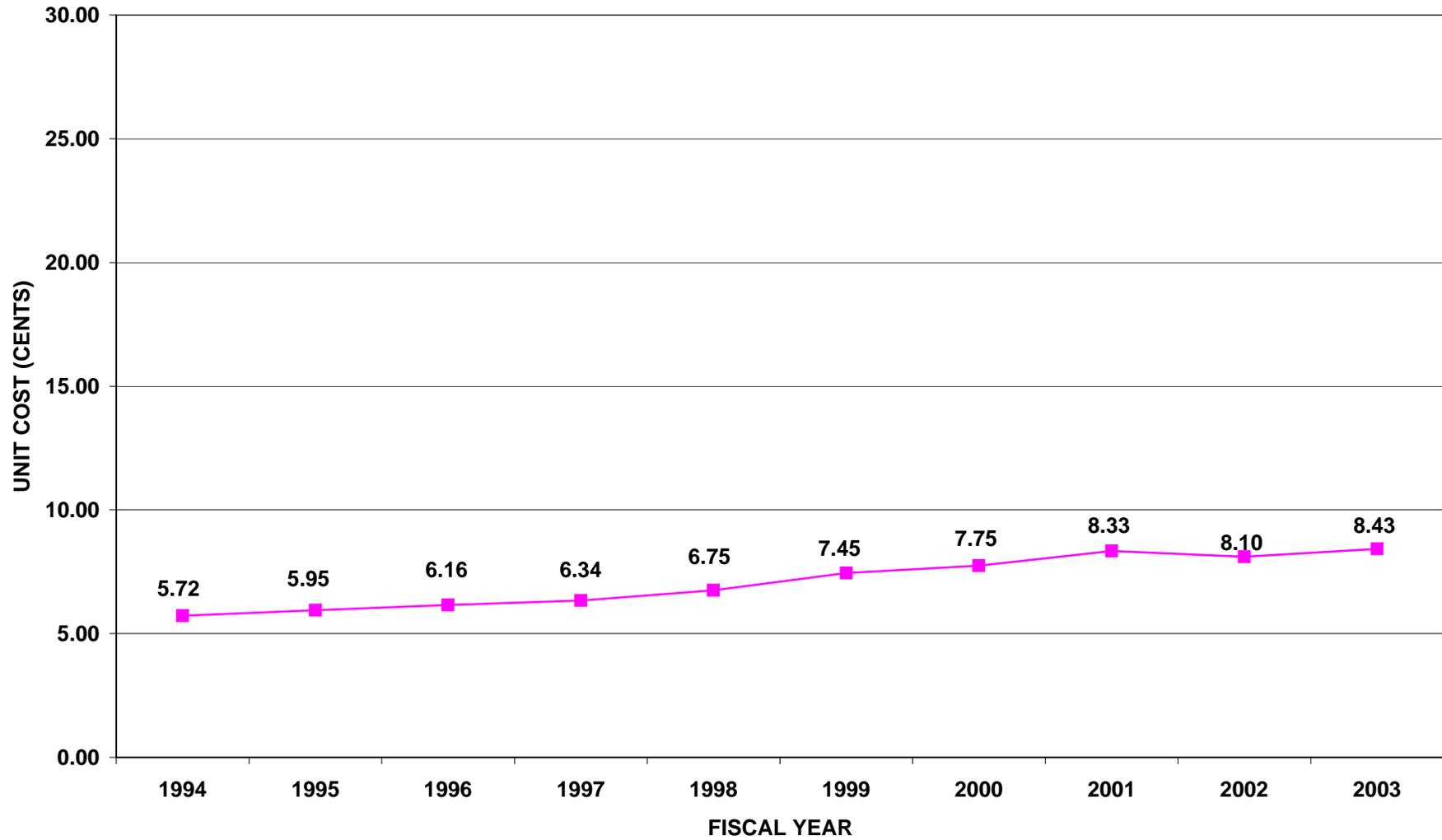
**c.** Mail processing costs are not tracked using these reports. As an alternative, I have plotted Cost Segment 3.1 - clerks and mailhandlers costs. Please see the attachment to this response.

**d.** Please see the attachment to this response.

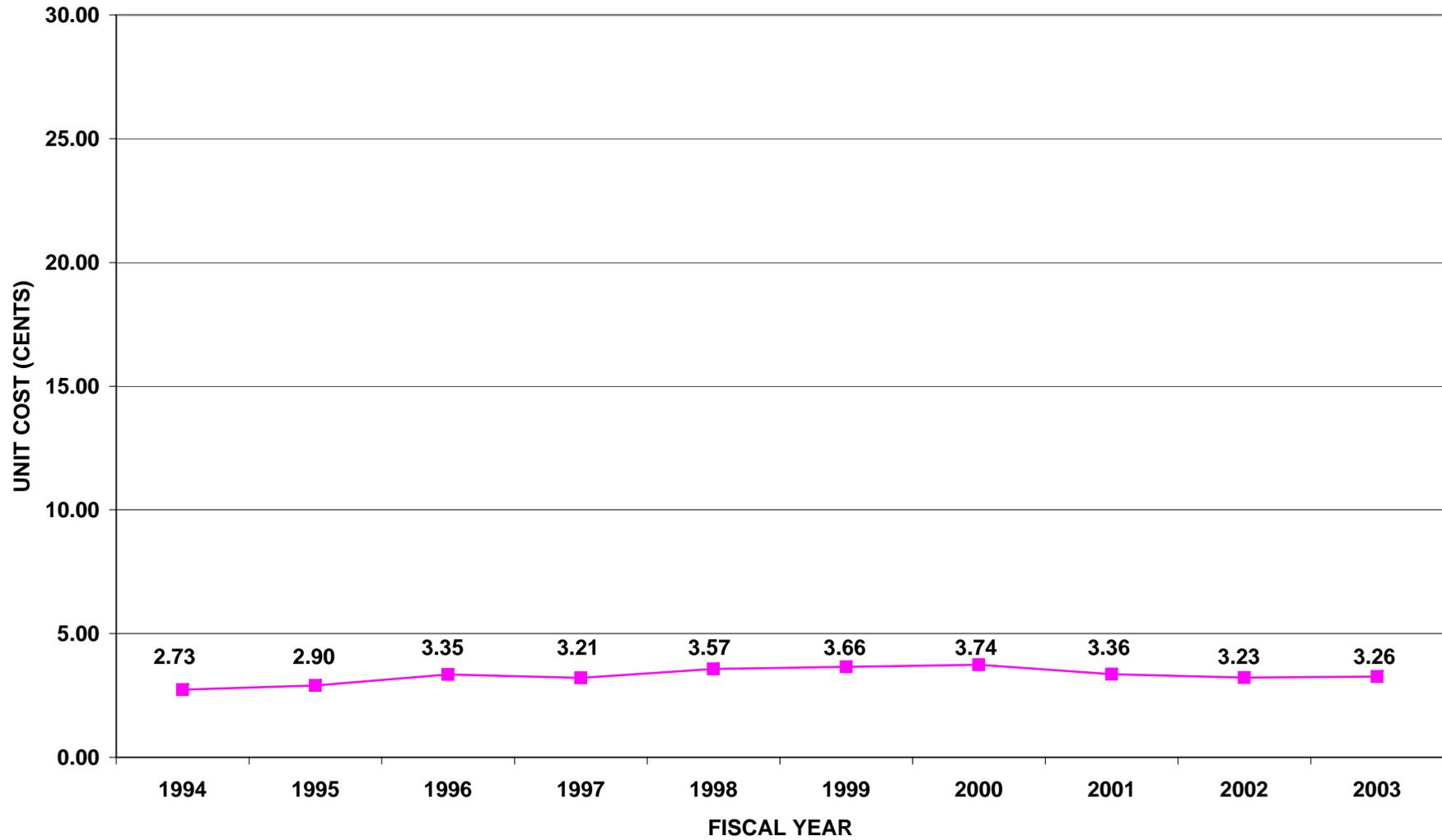
**OUTSIDE COUNTY PERIODICALS  
CRA MARGINAL COST (CENTS)  
FY 1994-2003**



**C/S 3.1 UNIT COST (CENTS)**  
FY 1994 - FY 2003



**C/S 14 UNIT COST (CENTS)**  
FY 1994 - FY 2003



## OUTSIDE COUNTY PERIODICALS UNIT COSTS

<u>FISCAL</u> <u>YEAR</u>	<u>MARGINAL</u> <u>COST (CENTS)</u>	<u>FISCAL</u> <u>YEAR</u>	<u>C/S 3.1</u> <u>UNIT COST (CENTS)</u>	<u>FISCAL</u> <u>YEAR</u>	<u>C/S 14</u> <u>UNIT COST (CENTS)</u>
1994	17.33	1994	5.72	1994	2.73
1995	18.22	1995	5.95	1995	2.90
1996	19.44	1996	6.16	1996	3.35
1997	19.79	1997	6.34	1997	3.21
1998	21.00	1998	6.75	1998	3.57
1999	23.23	1999	7.45	1999	3.66
2000	23.22	2000	7.75	2000	3.74
2001	23.99	2001	8.33	2001	3.36
2002	24.38	2002	8.10	2002	3.23
2003	23.99	2003	8.43	2003	3.26

**OUTSIDE COUNTY PERIODICALS TOTAL COSTS**

<b><u>FISCAL</u></b> <b><u>YEAR</u></b>	<b><u>OUT CO</u></b> <b><u>COST (000)</u></b>	<b><u>C/S 3.1</u></b> <b><u>COST (000)</u></b>	<b><u>C/S 14</u></b> <b><u>COST (000)</u></b>
1994	\$1,598,095	\$527,396	\$251,624
1995	\$1,692,434	\$552,331	\$269,547
1996	\$1,797,673	\$569,439	\$309,608
1997	\$1,873,420	\$599,819	\$304,153
1998	\$1,972,751	\$634,268	\$334,952
1999	\$2,178,814	\$698,459	\$343,008
2000	\$2,198,819	\$733,848	\$354,437
2001	\$2,207,109	\$766,660	\$308,836
2002	\$2,155,145	\$716,175	\$285,107
2003	\$2,045,476	\$718,629	\$278,224

## OUTSIDE COUNTY PERIODICALS RPW VOLUMES

<b><u>FISCAL YEAR</u></b>	<b><u>OUT CO RPW VOLUME (000)</u></b>
1994	9,221,232
1995	9,287,048
1996	9,248,366
1997	9,464,357
1998	9,392,886
1999	9,380,373
2000	9,467,716
2001	9,198,266
2002	8,839,847
2003	8,526,383

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**TW ET AL./USPS-RT1-5** Please refer p. 4, lines 5-19, where you list 23 factors that you believe affect Periodicals costs. For ease of reference, the 23 factors have been listed below and assigned distinct numbers. Please answer the questions that follow the list.

1. the network configuration through which the mail is processed (i.e., centralized operations versus decentralized operations, such as annexes and processing "hubs"),
  2. the building configurations through which the mail is processed,
  3. the dock configurations through which the mail is processed,
  4. the equipment available at the facilities through which the mail is processed,
  5. the methods used at the facilities through which the mail is processed,
  6. the transportation used to ship mail between postal facilities,
  7. destination entry,
  8. mail piece dimensions (length, height, and thickness),
  9. mail piece weight,
  10. mail piece volume or "cube,"
  11. container type (sack or pallet),
  12. container size,
  13. container weight,
  14. bundling materials and the associated breakage rates,
  15. bundle size,
  16. bundle weight,
  17. mail piece machinability (i.e., AFSM100 compatibility),
  18. the presence of a barcode on the mail piece,
  19. mail piece address location,
  20. mail piece return address location,
  21. mail piece "noise,"
  22. the use of polywrap, and
  23. the frequency of distribution (if, for example, "Hot 2C lists" are used to manage separate Periodicals mail streams).
- a. Please confirm that factors 1 through 6 are things that are determined entirely by decisions made by Postal Service officials and over which mailers have no control. If not confirmed, please explain.
  - b. Please confirm that bundle and container presort levels, while not on your list, are nevertheless important drivers of Periodicals costs.
  - c. Please confirm that accuracy and readability of the address and barcode, while not on your list, are nevertheless important drivers of Periodicals costs.
  - d. While mentioning destination entry (item 7), you do not list the distance between the point of entry and the destination, normally defined by zone in

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the case of Periodicals as well as some other mail classes. Please confirm that distance between entry point and final destination is an important driver of Periodicals costs.

- e. Please confirm that whether a mail piece is classified as a letter, a flat or a parcel is an important driver of Periodicals costs.
- f. Please state whether you agree that the most important impact of a mail piece's dimensions (item 8) is: (1) whether those dimensions lead to the mail piece being a letter, flat or parcel, (2) whether they lead to the mail piece being machinable and (3) their impact on total weight of the mail piece. Please explain your answer.
- g. Please explain what you mean by mail piece "noise" (item 21), how this characteristic of a mail piece is measured and how you believe it affects costs. Please provide a copy of any postal study of mail piece noise and its effect on costs.
- h. Please explain why you believe the placement of the return address (item 20) affects the cost of a Periodicals mail piece. Please also describe any studies the Postal Service may have done of the impact of return address placement on Periodicals costs.
- i. Please describe current postal regulations regarding placement of the address on the mail piece (item 19). Assume that a mailer complies with those regulations. Are there then still further cost related issues regarding exactly where (compliant with regulations) he puts the address? If yes, please explain.
- j. Please confirm that use of polywrap on a Periodicals flat can affect the machinability of the flat. Please confirm also that the Postal Service has approved various types of polywrap as consistent with AFSM-100 machinability. Besides its effect on machinability, please state what if any other cost related issues you believe exist with the use of polywrap. Please explain your reasoning.

**RESPONSE:**

a. I can confirm that mailers may not entirely have control over these areas, but they can influence them by virtue of the location of their plants, the type of mail they enter, the volume of mail they enter, and the like. I believe it is also an oversimplification of the situation to state that these areas are entirely within the Postal Service's control. For example, most plants are located where they are due to demographics of a specific region, access to transportation, available real estate and the associated costs, etc.

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**RESPONSE TO TW ET AL./USPS -RT1-5 (CONT.)**

The areas listed in items one through six vary in the field and do affect costs. The building and dock configurations can be used to illustrate this point.

For example, the Charlotte Processing and Distribution Center (P&DC)<sup>1</sup> is a fairly simple operation. The P&DC is housed in a building in which the work room floor is located on one level only. The dock bays are structured in an L-shaped configuration around two sides of the building.

The Palatine P&DC,<sup>2</sup> however, is structurally more complex. It contains mail processing operations on two floors. The first floor houses a SPBS and the second floor contains flats piece-distribution operations. Mail is moved between floors using elevators. Both floors contain docks which are used for both the receipt and dispatch of mail.

The Morgan P&DC is in midtown Manhattan and is even more structurally complicated.<sup>3</sup> The P&DC actually consists of two buildings, the north and south building, which are connected by a bridge over 29th Street. The north building contains mail processing operations in the basement and on floors one through six. The south building contains mail processing operations in the basement and on floors one through three. The second and third floors are the only floors in which mail can be moved between the north and south buildings.

The Morgan P&DC dock configuration is also unique. Docks can be accessed at the sub-basement, basement and first floor levels for both the north and south buildings. The one area of the dock in which Periodicals are typically entered is accessed from 10th Street. Once the Periodicals have been unloaded, they must first be moved over two level changes on the first floor using scissor lifts<sup>4</sup> before they can be routed to the appropriate next operation. Depending on the characteristics of the mail itself, the next operation could be the SPBS on the fifth floor, the manual distribution racks on the fifth

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<sup>1</sup> Docket No. C2004-1, Tr. 1/312.

<sup>2</sup> Docket No. C2004-1, Tr. 1/198.

<sup>3</sup> Docket No. C2004-1, Tr. 1/169.

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**RESPONSE TO TW ET AL./USPS -RT1-5 (CONT.)**

floor, the low cost distribution sorter on the first floor, the Periodicals preparation operation on the third floor, or the AFSM100 operation on the third floor. In cases where the next operation is on another floor, an elevator must be used.

These examples illustrate the variation that currently exists among postal facility building and dock configurations. When building and dock configurations vary, the distances containers must be moved (and the subsequent costs that will be incurred) also vary.

**b.** I confirm that container and bundle presort levels are also cost drivers. The list was not intended to be an exhaustive list of cost drivers.

**c.** I confirm that accuracy and readability of the address and barcode are also cost drivers. The list was not intended to be an exhaustive list of cost drivers.

**d.** I confirm that the distance between the point of entry and the destination is a cost driver. The list was not intended to be an exhaustive list of cost drivers.

**e.** I confirm that the shape of the mail piece is a cost driver. The list was not intended to be an exhaustive list of cost drivers.

**f.** These factors all influence costs. I am not aware of any study, however, in which the effect of these factors has been evaluated and compared to the other factors.

**g.** The term noise refers to graphics and/or printed text on mail pieces. On occasion, these mail piece attributes cause sorting problems. For example, an Optical Character Reader (OCR) could find non-address text and attempt to sort the mail piece based on what it reads, causing the mail piece to be rejected. I am not aware of any studies that have attempted to measure the impact that mail piece noise has on costs.

**h.** Please see Docket No. R2001-1, USPS-T-39, page 18 at 16 to 28. I am not aware of any studies that have attempted to measure the impact that return address problems have on costs.

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<sup>4</sup> The first floor was originally designed with multiple levels to accommodate a sack sorting machine.

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**RESPONSE TO TW ET AL./USPS -RT1-5 (CONT.)**

i. Postal addressing standards can be found in the Domestic Mail Manual (DMM), Section A. If a mailer is complying with postal addressing regulations, the location of the address is not as likely to have an adverse impact on costs as it might have had if the mailer had not been completely complying with postal addressing regulations.

j. It is confirmed that polywrap can affect the machinability and readability of a mail piece. It is confirmed that the Postal Service provides AFSM100 polywrap standards in DMM Section C820.4.1. There are two polywrap issues that I hear about from postal personnel when conducting field observations. The first is that polywrapped mail pieces tend to cause more jams than non-polywrapped mail pieces. The second is that the mail pieces stick together on occasion (which may cause some of the jams) due to a mild static electrical charge associated with the material. I am not aware of any studies that have measured the impact of polywrap on mail processing costs.

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**TW et al./USPS-RT1-6** Your 23 cost factors listed in the preceding interrogatory include “bundling materials and the associated breakage rates” (item 14). On page 10 you refer to two studies of bundle breakage issues that were documented in Docket No. R2000-1. You defend your own use of data from those studies in the subsequent rate case (Docket No. R2001-1) while expressing doubts about the appropriateness of their use by Stralberg in his LR-I-332-based analysis presented in this case.

- a. Please confirm that the probability of a bundle breaking prematurely depends on many factors other than bundling material, including the manner in which the bundle is handled in postal facilities.
- b. Please confirm that since R2000-1 the Postal Service has introduced detailed regulations covering the manner in which flats must be bundled, including instructions for what kinds of bundling materials can be used, how those materials must be applied, limits on bundle thickness in certain cases, etc. Please confirm also that those regulations have now been in effect for some time.
- c. Are you personally familiar with the regulations just referred to?
- d. Do you believe that Periodicals and Standard flats mailers for the most part are complying with the above-mentioned regulations for bundle preparation? Please explain any negative answer.
- e. Do you believe that compliance by mailers with the above mentioned regulations has had or is likely to have had a meaningful impact on the extent to which bundles break? Please explain your answer. If the answer is that you do not think the regulations have had an impact or are likely to have had an impact, do you then conclude that the regulations are useless and might as well be eliminated?
- f. Do you believe the Postal Service considers bundle breakage to be a serious issue in today’s flats processing environment?
- g. Has the Postal Service, since the 1999 study documented in LR-I-297, performed any additional study of bundle breakage in which data were collected? If yes, please identify and describe all such studies and the conclusions they reached, and provide copies of all documentation produced by all such studies.
- h. Please explain more fully why you believe it was “safe” to apply the LR-I-88 and LR-I-297 bundle breakage data in your R2001-1 analysis, which led directly to the development of postal rates for various rate categories, while you believe it is not “safe” to apply it in Stralberg’s present analysis, which was intended only to demonstrate the feasibility of further disaggregating Periodicals mail processing costs by identifying the costs directly associated with the number of bundles, sacks and pallets at

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different presort levels(taking into consideration that the complainants made it clear from the beginning that they expected the particular results obtained to be modified by the use of newer postal data as they become available [see the Complaint of Time Warner Inc. et al. in this docket, filed January 12, 2004, p. 8, ¶ 4, ll. 1-3]).

**RESPONSE:**

**a.** Confirmed. The bundling materials are an important element affecting breakage, but there are other elements as well, including the handling that occurs at both mailer and Postal Service plants and the transportation methods used by mailers and the Postal Service. I also believe that the Mailers' Technical Advisory Committee (MTAC) package integrity work group found a correlation between the usage of coated cover stock and the occurrence of broken bundles.

**b.** Confirmed. It is my understanding that revisions to Domestic Mail Manual (DMM) Section M020 were implemented on July 1, 2001. Please see Postal Bulletin 22050 dated May 17, 2001 and the June 2001 Mailers Companion. Two instructional videos and notifications were sent to both mailers and field employees in support of this effort.

**c.** Yes.

**d.** I do not know the answer to that question. I am not aware of any studies that have measured the extent to which mailers have been complying with the regulations that went into effect on July 1, 2001.

**e.** Given my response to TW et al./USPS-RT1-6(d), I cannot provide any definitive answers to these questions.

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**f.** I regularly hear complaints about bundle breakage during the course of conducting field observations. It is not possible, however, to quantify the extent of that breakage from this anecdotal information.

**g.** A follow-up study was conducted in the fall of 2002. This study measured breakage rates for sacks only at two of the sites originally included in the 1999 study. Sack breakage rates were measured at the first site on November 18-20, 2002. Sack breakage rates were measured at the second site December 2-4 2002. The integrity of bundles in 327 Periodicals sacks and 491 Standard Mail sacks was evaluated. Please see the attachment to this response.

**h.** I do not believe I used the term "safe" in my testimony. I believe I indicated that the use of these data was less risky in the cost studies as they have traditionally been conducted because the goal of those studies was to measure the cost impact related to mailer prebarcoding and/or presorting efforts. In contrast, the goal of the study presented by Time Warner, et al. is to measure bundle costs. I therefore believe the use of these data presents more of a risk, given the context in which they have been used in this docket.

## SACK BUNDLE BREAKAGE STUDY

<u>Facility</u>	<u>Description</u>	<u>Shrinkwrap No Straps</u>	<u>Shrinkwrap 1 Plastic Strap</u>	<u>Shrinkwrap 2 Plastic Straps</u>	<u>1 Plastic Strap</u>	<u>2 Plastic Straps</u>	<u>1 String Strap</u>	<u>2 String Straps</u>	<u>1 Rubberband Strap</u>	<u>2 Rubberband Straps</u>	<u>Total</u>
1	Total Packages	169	17	48	33	956	5	662	104	1108	3102
	Broken Packages	26	2	13	9	145	2	88	17	161	463
	<b>Percent Broken Packages</b>	<b>15%</b>	<b>12%</b>	<b>27%</b>	<b>27%</b>	<b>15%</b>	<b>40%</b>	<b>13%</b>	<b>16%</b>	<b>15%</b>	<b>15%</b>
2	Total Packages	256	16	42	93	378	15	44	39	195	1078
	Broken Packages	63	2	11	33	108	6	20	22	45	310
	<b>Percent Broken Packages</b>	<b>25%</b>	<b>13%</b>	<b>26%</b>	<b>35%</b>	<b>29%</b>	<b>40%</b>	<b>45%</b>	<b>56%</b>	<b>23%</b>	<b>29%</b>
Total	Total Packages	425	33	90	126	1334	20	706	143	1303	4180
	Broken Packages	89	4	24	42	253	8	108	39	206	773
	<b>Percent Broken Packages</b>	<b>21%</b>	<b>12%</b>	<b>27%</b>	<b>33%</b>	<b>19%</b>	<b>40%</b>	<b>15%</b>	<b>27%</b>	<b>16%</b>	<b>18%</b>
	<b>Bundling Method Percentages</b>	<b>10%</b>	<b>1%</b>	<b>2%</b>	<b>3%</b>	<b>32%</b>	<b>0%</b>	<b>17%</b>	<b>3%</b>	<b>31%</b>	<b>100%</b>

**RESPONSE OF UNITED STATES POSTAL SERVICE WITNESS MILLER TO  
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**TW et al./USPS-RT1-7** Please consider the following situation. Carrier route bundles entered on a 3-digit pallet are sorted on an SPBS at the destinating SCF into a five-digit rolling container. Assume that the bundles survive that initial sort without breaking and that the container into which they have been sorted is taken to the delivery unit (DU), where the bundles are distributed to individual carriers.

- a. Please confirm that the situation described above is typical for carrier route presorted flats bundles that are entered on 3-digit pallets. If you cannot confirm, please explain.
- b. Please confirm that in your flats mail flow model, presented in R2001-1, it is assumed that: (1) ten percent of the bundles will break in the process of being distributed to carriers; and (2) the pieces that were in those bundles are put through an incoming secondary sorting operation before they go to the carriers. If this is not the assumption that is reflected in your flats mail flow model, please explain fully what the assumption is.
- c. Please explain whether you believe today that the model assumption described in part b above is consistent with and justified by:
  - (1) the way things are normally done in postal facilities;
  - (2) the bundle breakage data described in LR-I-88 and LR-I-297; and
  - (3) the answers provided by USPS witness Kingsley to interrogatory AOL-TW/USPS-T-39-14 in Docket No. R2001-1 (Tr. 2179-80).
- d. Are you familiar with the bundle breakage assumptions in LR-I-332 that correspond to the situation described above? If yes, please state what percent of the bundles described would be assumed broken and how many pieces should be presumed to have to go back to an incoming secondary sort, according to that model.

**RESPONSE:**

**a.** Confirmed.

**b.** The bundle breakage assumptions I used in Docket No. R2001-1 can be found at USPS-T-24, page 8 at 14-26. The operation through which carrier route pieces from broken bundles were processed was dependent on the container presort level. In the event that the carrier route cost model contained errors, that model would have to be

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**RESPONSE TO TW ET AL.-RT1-7 (CONT.)**

revised by the flats cost witness prior to the next rate case. I do not recall being asked about this issue in any interrogatories or at Commission hearings during Docket No. R2001-1.

**c.** Given the limited information that is available concerning bundle breakage, I believe the assumptions are consistent. This question assumes that bundles "survive the initial sort," which is not always consistent with what happens in the field.

**d.** The bundle breakage assumptions used in Docket No. R2000-1, USPS LR-I-332, are described on page 3 of that document as follows:

These bundle downflows are adjusted for bundle breakage, as reported by the MTAC Package Integrity Workgroup (see Docket No. R2000-1, LR-I-297). The downflows are also adjusted to reflect the understanding that 50 percent of all bundles that get an incoming primary sort at the ADC will get an incoming secondary sort at the ADC instead of at the SCF.

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**TW et al./USPS-RT1-8** On page 11, lines 4-8, you state:

“Furthermore, bundle rates could result in mailers preparing larger and heavier bundles. In some cases, this could negatively impact operations. Larger bundles would tend to have more pieces than smaller bundles. When larger bundles break such that the integrity of the bundle is lost, more mail would be processed in piece distribution operations, even though that mail should have bypassed those operations.”

- a. Please confirm that in the absence of per-bundle rates, as in the current rate structure, mailers tend to prepare many small bundles in order to maximize their presort discounts, causing the Postal Service to have to sort and eventually “prep” more bundles than it would have to if per-bundle costs were reflected in the rates. If you cannot confirm, please explain.
- b. Please describe fully all current postal regulations that limit the size of flats bundles, both in general and in special cases such as bundles being carried in sacks. Please provide all appropriate references.
- c. Please confirm that the Postal Service, if it so wished, could impose regulations with even stricter limitations on bundle size.
- d. If the Postal Service is as concerned about large bundles as your testimony appears to suggest, why are postal officials talking about raising bundle minimums for both Periodicals and Standard flats?

**RESPONSE:**

- a. Not confirmed. This issue would be better directed to industry representatives.
- b. Package, or bundle, preparation rules can be found in DMM Sections M020.1.8 and M210.2.0.
- c. Confirmed.
- d. A per-bundle rate would serve as an incentive for mailers to maximize the size of their bundles. I do not view an incentive to maximize bundle size as being identical to a possible mail preparation change that could increase minimum bundle sizes.

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**TW et al./USPS-RT1-9** It has been rumored that the Postal Service soon will deploy the “Automated Package Processing System (APPS)” and that some of the sorting of Periodicals and Standard flats bundles that currently is performed on SPBS machines will be shifted to APPS machines. A Postal Service interrogatory to Stralberg in this docket asked if he had analyzed the impact of the APPS deployment, which of course would have been impossible given that little information has been made available on what the Postal Service’s plans with APPS are, and on what the precise capabilities of the machines are.

- a. Is the APPS deployment one thing you had in mind when you claimed that “cost reduction efforts are underway” on page 2 of your testimony? If not, please explain why not.
- b. Please describe the Postal Service’s current plans, to the extent they have been formulated, regarding APPS deployment. Include estimates of what portion of the current SPBS bundle sorting is projected to switch to the APPS, and when. Please also explain how use of the APPS system will be shared between parcel and bundle sorting.
- c. Please provide as complete a description as possible of the capabilities of the APPS system. Please include estimated productivity rates and a comparison with the capabilities of the various configurations of SPBS machines.
- d. Has any testing been done to determine how a switch of bundle sorting to the APPS system might affect the probabilities of bundle breakage? If yes, please describe the results of those tests. If no, please explain why not.

**RESPONSE:**

a. “Cost containment” would have been a better term to use. The deployment of the Automated Package Processing System (APPS) is one example of the efforts the Postal Service has undertaken to improve flats processing and contain costs. Furthermore, Postal Service equipment deployments, such as the deployment of the AFSM100, do not signify the “end” of the automation process, but, rather, represent the beginning.

For example, the AFSM100 was initially deployed with in-plant keying stations. Over time, it became apparent that it would be more efficient to have Remote Encoding

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**RESPONSE TO TW ET AL./USPS -RT1-9 (CONT.)**

Center (REC) employees key flat-shaped mail. The in-plant keying operations were removed and the images were ultimately routed to the REC.

In order to minimize the images that were routed to the REC, the Postal Service also incorporated the Secondary Address Reader (SAR) into AFSM100 operations. The SAR is somewhat similar to the Remote Computer Read (RCR) system used for cards and letters, with the exception that Optical Character Reader (OCR) technology is used, rather than image recognition technology. In essence, the SAR provides a second opportunity to resolve images before they are sent to the REC for keying.

Today, the Postal Service continues to look for ways to improve flats processing and enhance AFSM100 operations. For example, the Board of Governors recently approved funding for both the Automated Tray Handling System (ATHS) and the Automatic Induction System, both of which will complement the AFSM100.

**b.** It is my understanding that the utilization of the APPS machines is currently being evaluated and refined.

**c.** Please see the attached three-page description of the APPS. Productivities are expected to fall within the 369 pieces per work hour to 550 pieces per work hour range.

**d.** I am aware of no such tests. It is my understanding that the APPS machine has been designed to be more "bundle friendly." Mechanisms have been included in the APPS design which will absorb impacts. These features are expected to result in less damage and less bundle breakage.

## 1.0 INTRODUCTION

The purpose of this Decision Analysis Report (DAR) is to request approval of a [REDACTED] capital investment and an expense investment of [REDACTED] for the purchase and installation of 76 Automated Package Processing Systems (APPS). The APPS will be the Postal Service's next generation sorting machine for parcels and bundles of mail. By having optical character reading (OCR) and other advanced technologies, the APPS will reduce the labor necessary to efficiently process these mail types. A Return on Investment (ROI) of [REDACTED] percent is expected for this project.

## 2.0 BACKGROUND

In December 1986, the Postal Service signed a contract for its first deployment (102 units) of Small Parcel and Bundle Sorters (SPBS). These machines were designed to process mail products of medium weight and with small to medium dimensions. The Postal Service uses its SPBSs to process bundles of flats or letters, parcel-sized Priority Mail, and Parcel Post.

The Postal Service gives rate incentives to mailers to presort their mail. This mailer presorting results in bundles of flats, small parcels, and letters entering the mailstream via pallets, trays, tubs, and sacks. The receiving postal facility must then process the presorted mail to smaller facilities or to individual letter carriers within the facility's service area. Today, this work is done on an SPBS if available, or manually.

The other major workload on the SPBS is non-presorted parcels. The Postal Service delivers more than 1.6 billion parcel-shaped mailpieces per year. Despite reduced mail volume for 2001 as the nation's economic recovery continues, mail order catalogs along with e-Commerce are expected to create a growing market for parcel delivery. The Postal Service is committed to obtaining a substantial share of this business.

The volume of mail needing SPBS processing has grown steadily during the 1990s. Management has had to return to the Board of Governors repeatedly for authorization to purchase additional machines. At present, 346 of these machines are deployed nationwide. The SPBS has become a major workhorse, being used to sort over 3.7 billion small parcels and bundles per year.

Since items going onto an SPBS tend to be non-standard in shape and can be bulky or heavy, a team of employees is needed to get mail on and off the machine. Furthermore, employees have to manually align each item and key a code from the face of the mailpiece. The total crew for an SPBS, as originally deployed, was between 12 to 18 workers, depending upon the number of keying stations. Four-, five- and six-keying station SPBSs have been deployed.

In an effort to improve the staffing, productivity and achieved throughput of the SPBS, a front-end feed system was developed. The first component of the SPBS Feed System is mail container unloading equipment, which dumps mail out of the Postal Service's heaviest mail containers. The Feed System then transports the mail on mechanized conveyors to all of the keying consoles of the SPBS. These conveyors are lengthy, and provide staging space for a working inventory of mail. Deployment of 277 of these supplemental systems was completed November 2000.

In February 2002, both the hardware and software to upgrade the control systems of 192 SPBSs were deployed. This upgrade allowed for an easy addition of reading devices, such as a Barcode Readers (BCRs) and, when available, Optical Character Readers (OCRs) to SPBSs. Additionally, the modification redesigns the sortation software, expands the machine's management information platform (i.e., network download of sort plans and upload of end of run reports), increases computer processing power, replaces the supervisor's work station, and adds dispatch bin displays along with label printers.

Despite these improvements, today's SPBS is a machine with several inherent limitations.

- a. It is a labor-intensive machine that, depending upon the configuration in use and the type of mail being processed, can provide a productivity range of only 280 to 350 pieces/person/workhour.
- b. Each piece of mail that passes through the SPBS is dependent upon a keyer to accurately read and enter a code. Experience has shown that, whenever the Postal Service uses a method that is reliant upon keyers, a small portion of the mail is incorrectly sorted.
- c. The SPBS is unable to retain mail that is awaiting the resolution of an address recognition problem. Once a mailpiece is inducted onto an SPBS, it must immediately go into either a planned mail sort bin or the reject bin.

### 3.0 SYSTEM DESCRIPTION

The APPS is the next generation SPBS. It has been developed to improve the efficiency of bundle and parcel sorting. The APPS will be a large machine with a large processing capacity. All APPS sites have certified sufficient space to accommodate installation. The Postal Service's general plan is to replace one or two SPBSs with one APPS, in larger offices. Significant numbers of SPBSs will remain in service. In many cases, SPBSs that are exceeded by APPSs will be re-deployed to smaller offices that currently have no machines for sorting parcels and bundles.

The APPS will automate the sortation of small parcels and bundles. The first component of the APPS will be container unloading modules, on one or more sides of the machine, to support the high throughput objective. The stream of mailpieces then will pass through singulation and address reading subsystems.

Address reading will begin in a camera tunnel, consisting of an array of cameras positioned at different angles to capture multiple images of each mail piece (up to six sides of a package). As the mail moves by the cameras, the cameras will record the images of the different surfaces on the package. The recorded images then will be sent to an Optical Character Reader / Barcode Reader (OCR/BCR) processor, which will attempt to identify the destination ZIP Code and the type of package being processed (bundled mail or parcel). In the event of an address recognition problem, the images of the mail piece will be transmitted to one of twenty Remote Encoding Centers (RECs) across the country, where employees will key extracts from the images to resolve the problem.

All mailpieces will be inducted onto the APPS' circular sortation loop. Most induction will be done automatically, in an unattended mode. Transactions that the APPS recognizes as more than one piece of mail (i.e., unsuccessful singulation) will be sent to a semi-automatic induction line, where an employee will manually face and scan each mailpiece.

When the address of a mailpiece on the APPS' circular sortation loop has been properly recognized and the mailpiece reaches the correct discharge point, it will be ejected onto a slide or into a sack or container, as appropriate. If a mail piece is unreadable by the OCR and the image must be transmitted to a REC site, the circular design allows the mail piece to re-circulate until the address is resolved or until a site-adjustable number of passes around the sorter has been made.

### 4.0 SYSTEM BENEFITS

The advantages of the APPS over today's SPBS are:

- a. It is a less labor-intensive machine that has a live mail tested productivity, depending on the mail type and machine configuration, between 369 to 550 pieces/worker/hour. (Field workhour savings are based on [REDACTED] of the tested productivity.)
- b. Each mail piece that enters an APPS will be scanned by a camera and processed by an OCR/BCR. If the mail piece address cannot be automatically resolved the image will be

transmitted to one of twenty REC sites or keyed locally via a Video Coding System (VCS) subsystem. With this technology, a potential exists to reduce sortation errors, especially if a high percentage of barcoded mail is present.

- c. The induction subsystem of an APPS will be almost 100% automated. Like the SPBS's Feed System, the first components of an APPS will be container dumpers. But mail on an APPS then will pass through a new subsystem – a singulator, that unstacks mailpieces, spreads out adjacent mailpieces, and produces a stream of separated, single mailpieces. The singulated mail then will pass through an OCR/BCR. If the OCR/BCR notes more than one mailpiece in a transaction, such mail will be sent to the sole remaining manual induction station within an APPS induction subsystem. All other mail, which will be properly singulated, will be automatically inducted onto the transport.
- d. The APPS will be deployed with one or two feed systems. An APPS with two feed systems is expected to be able to achieve a throughput of over 9,000 pieces/wallclock hour – about twice what is being achieved with an SPBS.
- e. The APPS will be able to retain mail that is awaiting the resolution of an OCR/BCR read problem. The APPS transport will be a loop, so such mailpieces will be able to re-circulate until address problems are resolved. Unlike the SPBS, the APPS will have an encoding subsystem, like that on the Automated Flat Sorting Machine (AFSM) 100, so all address problems will be resolved before a mailpiece is sorted into a discharge unit.
- f. The APPS will have the flexibility to be deployed with 100-200 sortation bins. All SPBSs were deployed with 100 sortation bins only<sup>1</sup>. The APPS with greater sort capacity can be used to provide greater depth of sort, to have multiple runouts for high-volume destinations, to have the ability to run two sort plans on one machine, or to segregate mixed mail by mail type at the conclusion of a sort.
- g. The mail will be treated more gently on the APPS than on the SPBS. Mechanisms will be included to absorb impacts. The superior mail handling features of this next generation machine will result in less mail damage and less bundle breakage.
- h. An APPS configuration with two induction subsystems and 100 sort bins will have a smaller working footprint than a pair of today's SPBSs with Feeders.
- i. The OCR(s) of the APPS will be able to identify and read the optional endorsement line (OEL) used to sort bundled flats or letters. The OEL is applied by mailers to identify the presort level of mail bundles.
- j. The APPS will recognize and capture Delivery Confirmation Codes, thereby serving as one component of a status reporting system for customers.
- k. The APPS will be able to sort mail with greater extremes in dimensions and weight versus what can be processed on an SPBS.
- l. The APPS will be able to sort into the same containers as the SPBS (including sacks, parcel tubs, and hampers).

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<sup>1</sup>The SPBS can be expanded to up to 132 sort locations, and some sites have upgraded their machine(s) to this maximum.

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**TW et al./USPS-RT1-10** Please describe and provide the information currently known to the Postal Service regarding productivity at the bundle prep operation that normally has MODS number 035. In particular, please answer the following.

- a. Please confirm that in today's environment most flats bundles, with the exception of carrier route bundles, are taken to the 035 mail prep operation where the bundles are broken and the pieces inside the bundles are placed on "ergo carts," which are then taken, in most cases, to an AFSM-100 machine. Please explain if not confirmed.
- b. Please confirm that in today's environment even bundled pieces that eventually will be sorted on FSM-1000 machines or manually tend to be given the 035 mail prep treatment.
- c. How is volume at the 035 operation measured in the MODS system? Is it measured in pieces prepped, in bundles opened, or something else? Please explain.
- d. What is believed to be the dominant factor or factors affecting 035 costs? Is it the number of bundles, the number of pieces prepped, the weight of those pieces? Please describe what is known about the cost structure of this operation.
- e. What are the typical productivity targets transmitted to 035 employees by their supervisors?
- f. Is the 035 operation typically staffed with clerks or mailhandlers?
- g. What special studies, if any, have been performed to analyze 035 productivity, and what are the results of such studies?

**RESPONSE:**

- a. Confirmed for Periodicals and Standard Mail bundles.
- b. Confirmed for mail pieces that are to be processed using the Automated Flats Feeders (AFF) on the Upgraded Flat Sorting Machine model 1000 (UFSM1000). Not confirmed for mail pieces that are to be keyed on the UFSM1000.
- c. It is my understanding that bundled flat mail is weighed into the 035 operation and converted to pieces using conversion factors.

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**RESPONSE TO TW ET AL.-RT1-10 (CONTINUED)**

**d.** I am not aware of any field studies that have been conducted to evaluate the 035 operation. However, it is my understanding that Postal Service operations personnel consider the number of bundles to be a primary cost driver.

**e.** The operations target for loading a Flat Mail Cart (FMC) is 40 minutes.

**f.** The 035 operation is staffed by mailhandlers.

**g.** Please see my response to TW et al./USPS-RT1-10(d).

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**TW et al./USPS-RT1-11** Has the Postal Service developed estimates of per-bundle, per-sack and per-pallet costs that are more recent than those presented in LR-I-332? If yes, please describe the study or studies in which such estimates were developed. Please also describe the parameters by which the costs were disaggregated, e.g., by presort, entry point, class of mail, etc. Please provide the unit costs obtained from any such studies, as well as all supporting data.

**RESPONSE:**

Redirected to the Postal Service.

## **CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon all participants of record in this proceeding in accordance with section 12 of the Rules of Practice.

David H. Rubin

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September 28, 2004